VITAL STATISTICS OF THE SOUTH-WEST IN 1954

BY

A. H. GALE, D.M.

Director of Medical Postgraduate Studies, University of Bristol

The annual reports of the Medical Officers of Health of the five county boroughs and of the five administrative counties which are wholly or partly within the South-West Hospital Board Region, give much interesting information on the public health in the year 1954. The Statistical Review published by the Registrar-General (Part I) supplements the information in the annual reports.

Some of the fundamental vital statistics are set out in Table I.

TABLE I

PRINCIPAL VITAL STATISTICS

of County Boroughs and Counties in the South-West Region in 1954.

County Boroughs	Population	Live Births	Deaths	*A*	*B*	*C*	*D*
Bath	79,400	1,043	980	0·88	0·85	21	26
Bristol	444,900	6,703	5,165	0·98	0·99	21	23
Exeter	76,900	1,112	990	0·96	0·98	26	35
Gloucester	66,700	1,138	731	1·11	0·99	20	17
Plymouth	217,500	3,582	2,348	1·11	0·97	28	25
Counties:							
Cornwall	343,200	4,845	4,537	1·00	0·96	21	31
Devon	510,000	6,684	7,234	0·98	0·93	25	21
Gloucestershire	446,600	7,037	5,012	1·09	0·94	25	22
Somerset	485,000	6,987	5,901	1·02	0·90	22	20
Wiltshire	394,800	6,270	4,112	1·14	0·90	25	20
Whole Region:	3,065,000	45,401	37,016	1·03	0·93	24	23

A. Ratio of local adjusted birth-rate to national rate.
B. ,, ,, ,, ,, death ,, ,, ,, ,,
C. Infant mortality per 1,000 live births.
D. Stillbirth rate per 1,000 live and stillbirths.

BIRTH-RATES

The birth-rates (col. *A*) of Gloucester C.B., Wiltshire and Plymouth C.B., were a little higher than the national rate and that of Bath was a little lower while those of the other areas were much the same. All the death-rates (col. *B*) were a little lower than the national rate. Infant mortality rates (col. *C*) for the county boroughs were not very different from those of the administrative counties, but the rather high rate for Plymouth is commented upon by Dr. Peirson. He draws attention to the fact that there were nine deaths from gastro-enteritis among children under two. Dr. Irvine comments on the high stillbirth rate in Exeter (col. *D*) the total number of stillbirths in Exeter was 41 but where numbers are as small as this rates will inevitably fluctuate from year to year.

DEATHS

Figures of deaths by age and cause for the whole region are given on pages 220–1 of the Registrar-General's Statistical Review, 1954 (Part I). They show how great have been the changes in the general picture of mortality in recent years.

The number of deaths at all ages in the year was 37,016, 18,713 of males and 18,303 of females.

Infants under 4 weeks

In this age group there were 740 deaths and not one was ascribed to the definite diseases classified as infective or parasitic. Only 70 were classified to one of the indefinite groups of infections. Nearly all the rest were returned under such headings as congenital malformations (122), birth injuries, &c. (285), immaturity and ill-defined diseases of early infancy (244).

Infants 4 weeks to 1 year. Total deaths 331.

Formerly the specific infectious diseases were important causes of death among older infants but in 1954 there were only 10 deaths from whooping-cough, none from measles and 5 from tuberculosis. Pneumonia (95), bronchitis (14) and gastroenteritis (25) were the most prominent of the infections. Congenital malformations accounted for 78 deaths and accidents for 26 (males 21, females 5).

Pre-school children (age 1–4). Total deaths 146.

The deaths from malignant disease (15) exceeded those from tuberculosis (9) and of the specific infectious diseases only meningococcal infection (2) caused any deaths at all. Pneumonia (18), influenza (3) and bronchitis (1) were credited with 22 deaths and accidents with 36 (males 23, females 13). Congenital malformations (16) were still important.

School children (age 5–14). Total deaths 210.

There were 30 deaths from malignant disease and 14 from all the definite diseases classified as infective and parasitic including 3 from tuberculosis. Influenza (2), pneumonia (16) and bronchitis (1) are not included under the comprehensive heading of "infective and parasitic". Accidents accounted for 55 deaths of which 23 were due to motor vehicle accidents. It is perhaps a reflection of the greater rashness of boys that 18 of those killed in motor accidents were boys and only 5 were girls.

Adolescents and Young adults (age 15–24). Total deaths 314 (male 238, female 76).

This used to be the age group in which there was a great excess of female over male deaths from pulmonary tuberculosis. In 1954 there were 9 deaths of females and 5 of males from this cause. There were 28 male and 7 female deaths from malignant disease, but the principal reason for the great excess of male over female deaths is to be found under the heading " accidents"—84 males and 9 females died as a result of motor vehicle accidents and 40 males and 1 female as a result of "all other accidents".

Ages 25–44. Total deaths, 1,360 (male 775, female 585)

In this group deaths from pulmonary tuberculosis were approximately the same in males (67) and females (61). Under the heading malignant disease there was an excess of female (169) over male (138) deaths. Deaths from vascular lesions of the central nervous system were much the same in the sexes—male 39, female 42—but deaths from arteriosclerotic heart disease were much higher among men (67) than among women (8). There were 28 male and 37 female deaths from chronic rheumatic heart disease. Once again accidents were a considerable cause of death—"motor vehicle", male, 56, female 5; "all other accidents", male 83, female 11.

Ages 45–64. Total deaths 7,708 (male 4,555, female 3,153).

Summary analysis is difficult in this age group because many causes contribute. The following are points of particular interest. There were 153 deaths of males from pulmonary tuberculosis and only 39 of females.

Deaths from malignant disease were 1,179 of males and 1,052 of females. The excess of male (486) over female (71) deaths from carcinoma of the trachea, bronchus and lung was largely offset by the female deaths from carcinoma of the breast (250) and uterus (131). Vascular lesions of the central nervous system caused 471 deaths of males and 526 of females whereas arteriosclerotic heart disease, &c. caused 907 deaths of males and only 259 of females. Under the somewhat indefinite headings of bronchitis and pneumonia there were 326 deaths of males and 120 of females.

Ages 65–74. Total deaths, 9,661 (male 5,255, female 4,406).

The main causes of death were similar to those in the preceding age group and the sex differences were much the same.

Ages 75 *and over*. Total deaths 16,546 (males 7,036, female 9,510).

In this age group the chief causes of death were degenerative diseases of the heart and blood vessels. Malignant disease was less prominent than in the preceding group.

The diseases which showed the most consistent changes in numbers of deaths in the five years 1950–54 were tuberculosis and carcinoma of the respiratory system. Deaths are shown in Table II.

TABLE II

DEATHS
(S.-W. Region)

	1950	1951	1952	1953	1954
Tuberculosis, Respiratory ..	923	776	594	506	445
,, Other	128	111	83	67	65
Respiratory Carcinoma ..	M. 557	615	656	710	835
	F. 110	130	144	132	162

INCIDENCE OF SICKNESS

Statistics of sickness are notoriously rudimentary in comparison with those of mortality, and the only comprehensive figures available are those of notifications of infectious diseases. Figures of notifications must always be treated with reserve but those for a succession of years do give some indication of trends. Tables III and IV give the figures for the more important diseases for the five years 1950–54. For convenience of comparison the diseases have been grouped in a different order from that of the Registrar-General's Review.

For some of these diseases it is possible to give figures of deaths but others do not appear in the abbreviated list of causes which is used for the classification of deaths by regions. In some instances, notably the indefinite group of respiratory diseases—influenza, pneumonia and bronchitis—the classification for notification purposes does not correspond with the classification for certificates of death. The figures of deaths show the epidemic element in the numbers of deaths from influenza, pneumonia and bronchitis. This is particularly obvious in 1951 and 1953 when there were epidemics of influenza due to virus A.

TABLE III

NOTIFICATIONS OF INFECTIOUS DISEASES
in the South-West Region, 1950–54.

Disease	1950	1951	1952	1953	1954
Typhoid fever	9	31	9	3	5
Paratyphoid fevers	19	34	27	13	14
Dysentery	489	1,420	783	474	1,152
Food poisoning	607	496	332	372	416
Meningococcal infection	52	51	76	75	52
Poliomyelitis paralytic	739	159	189	288	141
,, non-paralytic	199	109	113	184	81
Acute encephalitis infective	24	63	8	8	11
Acute encephalitis post-infectious	3	9	6	8	—
Scarlet fever	3,816	2,949	3,566	2,966	2,264
Erysipelas	558	411	391	377	352
Whooping-cough	11,300	11,899	7,774	10,705	8,966
Diphtheria	56	55	29	35	9
Measles	14,703	50,829	13,361	52,034	6,355
Acute pneumonia (Primary and influenzal)	2,036	2,623	1,640	2,424	1,690

TABLE IV

DEATHS FROM NOTIFIABLE DISEASES
in the South-West Region 1950–54

Disease	1950	1951	1952	1953	1954
Typhoid fever		3	1	0	1
Dysentery		4	3	1	2
Meningococcal infection	13	12	11	15	10
Poliomyelitis	104	24	24	32	10
Scarlet fever and streptococcal sore throat		9	8	9	5
Whooping-cough	20	31	17	16	12
Diphtheria	2	2	4	2	0
Measles	8	18	4	16	0
Influenza	322	1,184	148	634	135
Pneumonia	1,195	1,568	1,191	1,467	1,272
Bronchitis	1,457	1,884	1,237	1,527	1,248

The most striking feature of the table is perhaps the low mortality from the specific infectious diseases excluding influenza. The place of influenza is difficult to define because of the difficulty of diagnosis but it seems that in a year when virus A is prevalent there may be an excess of something like 1,500 deaths over a year when it is not prevalent. Measles seems to have resumed the two year periodicity which was so obvious a feature of its behaviour before the last war.

Acute rheumatism is not notifiable throughout the region but it is notifiable in Bristol C.B. and Cornwall (Table V). Figures of deaths are for the whole region.

TABLE V

ACUTE RHEUMATISM: NOTIFICATIONS, DEATHS

	1950	1951	1952	1953	1954
Notifications					
Bristol C.B.*	26 (4)	28 (7)	37 (4)	37 (4)	33 (0)
Cornwall	26	24	14	14	9
Deaths					
Whole Region		29	25	20	11

* Deaths shown in brackets.

The figures are too small for conclusions about trends but they do show that acute rheumatism is a very different disease now from what it was twenty years ago (1935) when 116 new patients with rheumatic heart disease attended the cardio-rheumatic clinic in Bristol and a new block was being built at Winford for the treatment of such cases.

General comment

Everyone knows that infections have become less important as causes of death than they used to be and that malignant disease, degenerative diseases of the heart and blood vessels and accidents have increased in importance. It is, however, a little surprising to find how much the balance has altered, particularly in the younger age groups. The leading position of malignant disease and accident as causes of death in pre-school and school children are good examples of this change of balance. It so happens that poliomyelitis, the one infectious disease which has become more important of recent years, was not epidemic in the South-West in 1954 and so the total number of deaths (10) was comparatively small. Nine of these deaths occurred at ages over 15.

A MORBID VIEW OF THE OVER-65's*

BY

G. STEWART SMITH, M.A., M.D.

Area Pathologist, Exeter

In this rather cryptic title morbid means through the eyes of a morbid anatomist. I thought it might be opportune for a pathologist to add his views to those of the clinicians and sociologists on some of the problems created by this age group. It happens that my own autopsy experience has given me an unusually high proportion of elderly subjects. Some five years ago I analysed a group of some 1,700 autopsies in subjects over 65 years of age collected from the Manchester Municipal Hospitals, which tended, at that time at least, to have a high proportion of older patients and also to be receptacles of lost causes of all sorts. Since I came to Exeter in 1949, I have, for a different reason, still to study many elderly people and I find that more than a third of all my autopsies are on people more than 65 years of age.

My cases are nearly all from one busy general hospital, the Royal Devon and Exeter, with a proportion of sudden and unexplained deaths investigated for the Coroner. I assume therefore that the age distribution reflects the contentment and peace of Devon.

This lecture then is based on an analysis of the causes of death of 669 people, aged 65 years and over, collected during the last five years. I am fully aware that mortality is a very different matter from morbidity: a great deal has been said about morbidity in these older people; perhaps less has been said about the actual pathological findings.

There are several reasons why the age of 65 should be chosen as a dividing line. Two may be noted:

(1) It is still the normal retiring age for most poeple and the time when many of us hope to be eligible for pensions: certainly it is a time when we tend to slack off a little from our normal routine. I should however point out that Sheldon (1954) puts the dividing line at 70–75. He says that before 70 the majority are potential donors to the common effort and after 70 they are potential debtors.

(2) It is the age which is used in the Registrar-General's statistics. Let us not forget however how much our ideas have changed. Not many years ago I was designing punch cards for tumour specimens and was considering the age groupings. My young assistant said, " You can lump all those over 60 into one group ", indicating that in his opinion all people over 60 belonged to the limbo lost. Thirty years ago when I was doing an H.P. job I was quite prepared to sign up anyone over 65 as " senility " and some at 60 as " premature senility ".

Circumstances now compel us to take a different view of these things. It is common knowledge that we are an ageing population since the expectation of life is greater than ever before. Table I, the Registrar-General's Statistical Review of 1950 and Table II, from the recent Report of the Phillips Committee (1954), show this quite clearly. To put this matter in another and very simple form—100 years ago the number of elderly people in Great Britain was 3 per cent. of the population, now it is 11 per cent. and by the end of the century it will propbably be 20 per cent. If we are to get the best out of the older age group we must study them and see what special medical and surgical problems they present.

* A lecture to the Bristol Branch of the British Medical Association.

TABLE I

EXPECTATION IN YEARS

AGE.	MALES.	FEMALES.
65	12·00.	14·39.
70	9·31.	11·07.
75	7·03.	8·26.
80	5·24.	6·11.
85	3·95	4·56.

TABLE II

POPULATION OF PERSONS IN ENGLAND AND WALES BY AGES, PER 10,000 AT ALL AGES, 1901, 1911, 1921, 1931, 1939, 1951

AGE.	1901. CENSUS.	1911 CENSUS.	1921 CENSUS.	1931 CENSUS.	1939 MID-YEAR.	1951. CENSUS.
65	331	377	434	536	643	737
75	121	126	151	182	225	306
85 AND OVER	15	18	20	24	29	43

What sources of information are available for study? (1) The Registrar-General's figures (2) Autopsy observations, including one's own.

The Registrar-General's figures are the only one's available for the study of the population as a whole and it must be remembered that he deals with some 500,000 deaths per year. How near his figures approximate to the truth I don't know but he himself admits three difficulties:

(1) The quality of diagnostic services during life varies much in different parts of the Country. Perhaps in time the National Health Service will even this out a bit.

(2) Only a proportion of the causes certified are confirmed by autopsy. (I am more convinced than ever that it is seldom that autopsy fails either to modify or to change the diagnosis.)

(3) The real cause of death may not be stated on the certificate because it is unpleasant or is inconvenient to the relatives.

When a pathologist discusses his own experience problems also arise. The series studied must be large and consecutive and no stress must be laid on small differences. All hospital cases are to a varying degree selected and it is very difficult to say how far the results obtained apply generally to the area concerned. Another problem is how to analyse the results: this is not easy and there is bound to be some overlapping but

perhaps it can be accepted as roughly accurate. It is interesting to note that in no case has the cause of death been returned purely as senility. Warthin, writing in 1928, stated that in 35 years of morbid anatomy he had only had 25 autopsies in which biological death could be presumed. The classifications found in the Registrar-General's tables have also moved away from the diagnosis of senility to something more specific and I would like to think that it is a distinction with a difference. (Table III). In one place the Registrar-General makes the suggestion that his groupings may not be exact but are probably near the truth and I think this is probably so, especially with respect to cardiovascular disease, which in figures for the Country and in my own local survey makes up about two-fifths of the causes of death.

TABLE III

REGISTRAR GENERAL'S FIGURES FOR 5 PRINCIPAL CAUSES OF DEATH AGE 65 AND OVER (PER MILLION LIVING)

	MALES.		FEMALES.	
1848 TO 1872	OLD AGE.	27,726.	OLD AGE.	30,695.
	BRONCHITIS.	11,007.	BRONCHITIS.	10,487.
	HEART DISEASES.	6,572.	PARALYSIS.	5,858.
	PARALYSIS.	6,153.	HEART DISEASES.	5,811.
	APOPLEXY.	4,486.	DROPSY.	4,045.
1901 TO 1910	OLD AGE.	18,339.	OLD AGE.	18,768.
	HEART DISEASES.	13,329.	HEART DISEASES.	12,059.
	BRONCHITIS.	10,399.	BRONCHITIS.	10,441.
	CANCER.	6,997.	CANCER.	7,023.
	CEREBRAL HAEM: EMBOLISM.	5,298.	CEREBRAL HAEM:	5,097.
1950	HEART DISEASES.	26,815.	HEART DISEASES.	21,766
	CANCER.	12,009.	VASCULAR LESIONS AFFECTING C.N.S.	10,922.
	VASCULAR LESIONS AFFECTING C.N.S.	10,784.	CANCER.	8,273.
	BRONCHITIS.	5,853.	BRONCHITIS.	3,160.
	HYPERTENSIVE DISEASE.	3,460.	HYPERTENSIVE DISEASE.	2,901.

For the purpose of this paper I have divided these 669 autopsies into 12 groups and have made a distinction between the age groups 65–75 and over 75 and between males and females, (Table IV).

One would expect the first three groups—coronary disease, general arteriosclerosis and hypertension and cancer—to account for more than one-half of the deaths. Page (1945) stated that " The problem of arteriosclerosis is the hub of the problem of cardio-vascular disease. Notwithstanding its great importance our knowledge is sketchy regarding its aetiology, indefinite as to classification and meagre as to prevention and cure." As far as I know this is still true.

Let us now consider these groups and see if they have anything to teach us.

TABLE IV

SUMMARY OF 669 AUTOPSIES AGED 65 AND OVER (EXETER)

	FEMALES.			MALES.			TOTAL.
	65-74	OVER 75	BOTH GROUPS.	65-74	OVER 75	BOTH GROUPS.	
CORONARY.	38	23	61	60	28	88	149.
ARTERIOSCLEROSIS.	29	19	48	24	22	46	94.
NEOPLASM.	36	17	53	66	15	81	134.
CEREBRAL HAEM: AND THROMBOSIS.	8	4	12	11	-	11	23.
INFECTION.	9	4	13	13	8	21	34.
PROSTATE AND KIDNEY.	7	2	9	31	14	45	54
PULMONARY EMBOLISM.	5	1	6	4	-	4	10.
ABDOMINAL CRISES.	17	9	26	34	25	59	85.
POISONING.	7	3	10	3	6	9	19.
BRONCHITIS.	4	1	5	6	-	6	11.
TRAUMA.	15	8	23	12	13	25	48.
MISCELLANEOUS.	3	-	3	3	2	5	8.

GROUP I. CORONARY ARTERY DISEASE

This accounts for about a quarter of the deaths and a high proportion of the sudden deaths. In this series there is very little difference between the sexes. In the younger age groups there is certainly a predominance of males but after 65 the incidence has evened out in rather striking fashion. Further analysis shows that the type of lesion was similar in men and women. There was evidence of old ischaemia, either patches of fibrosis or a large scar representing a healed infarction in about half the cases while in the other half it seemed, judging from naked-eye appearances, that the first attack had been fatal. In half of this group, i.e. in a quarter of the whole coronary group, there had been time for a fully developed infarct. The left coronary, and especially the anterior descending branch, was much more commonly the site of the fatal occlusion than the right.

Three points have struck me on the clinical side:—(1) The fact that some practitioners are still not aware of the frequency of this condition in older people and do not consider it as one of the very likely diagnoses in a patient complaining, perhaps for the first time, of vague digestive trouble and epigastric pain, which are often the first signs. (2) The electrocardiagram, regarded in some quarters as almost infallible because it writes down its results, can often lead one astray. A positive reading, indicating myocardial ischaemia or infarction, has to be taken seriously but a negative finding does not necessarily exclude gross infarction. (3) The first attack, as represented by a large

fully healed infarct, quite often seems to have been almost silent or perhaps accompanied or followed by some breathlessness on exertion and no actual pain.

Coronary disease undoubtedly remains one of the big bugbears which prevents people who have survived all the other hazards, some of which have diminished so strikingly during the last 10 or 15 years, from dying a biological death. I think we must realize that coronary occlusion in this age group is almost entirely a problem of arteriosclerosis in general. Mortality from heart disease must eventually depend on either insufficiency of the coronary circulation or disease of the myocardium and in fact about two-thirds of all heart disease and heart failure arise from relative or absolute failure of the coronary vascular tree. The whole problem both from the experimental and from the human side has recently been reviewed in a monograph by Gregg (1945), " The coronary circulation in health and disease ", and it is worth while seeing what he has to say. He states that occlusion of the coronaries may arise from a number of events associated with the arteriosclerotic process: (1) fragments of atheromatous plaques may rarely break off and obstruct the lumen lower down (2) the plaques themselves may become so large as to obstruct the lumen (3) thrombosis may occur (4) arteriosclerotic lesions may become richly vascularized and intramural haematoma may arise from rupture of one of these. This occurrence may be an important cause of trouble in hypertensives and looking back on some of my cases I think may well have happened, especially when the lumen is found to be obstructed by much old yellowish-brown material.

In spite of all the experimental work summarized so well by Gregg the aetiological factor is not clear and there are many seemingly contractictory pieces of evidence. Atheromatous lesions can certainly be produced in rabbits by feeding them for long periods with large amounts of cholesterol, a substance alien to their usual diet, and in dogs by giving them cholesterol and thiouracil, but in man arteriosclerosis and coronary disease are not usually accompanied by hypercholesterolaemia. On the other hand, conditions in which there is an increase of cholesterol in the blood, such as diabetes, myxoedema and xanthomatosis, do have a high incidence of arteriosclerosis and often develop it at an early age.

Several surveys have shown an increase of coronary disease in men who are overweight but this cannot account for the general lower incidence in women. Great importance has been attached to the fact that there is a low incidence of general and coronary atherosclerosis in China and Costa Rica where nutrition is poor and where apparently placid and philosophical dispositions are, or were, the rule! I was much impressed during a recent visit to America with some papers on the demographic pathology of cancer. Pathologists from all parts of the world gave their experiences of the distribution of cancer among their populations and I think that in time this may give very valuable information. It might be that a demographic survey of arteriosclerosis would be helpful.

There is no doubt that the condition in this older group is different in some ways from that found in younger people where there is often no generalized arteriosclerosis and the whole fatal lesion is confined to one or two centimetres of the left coronary artery or one of its main branches. Experimental work has shown quite clearly that anastomoses, at the arteriolar level, do exist in the coronary system and can dilate up to ten times their normal size and also, and this is important, that the process goes on over days and weeks. This gives a logical reason why adequate rest is required after the first attack and why in this older group where the occluding process may develop slowly the heart can still carry on with grossly diseased coronaries.

In looking at my cases I have often wondered what place anti-coagulants really

have. Recent thrombosis in the coronaries themselves does not seem to be a major factor in most of them or at least is only the terminal event. I am not a clinician and am confused by the diametrically opposed views of the experts. Gilchrist and Tullock (1954) say that the objects of anti-coagulant therapy are (1) to prevent any extension or propagation of the original thrombus if present (2) to prevent secondary thrombi, either endocardial overlying the infarct or in the peripheral veins of the legs (3) to promote dissolution, absorption and re-canalisation of the original or secondary thrombi. They consider that anti-coagulants are capable of halving the death rate.

Opposed to this is the view of Russek and Zohman (1954) who, as a result of their work in the U.S.P.H.S. Cardiovascular Research Unit, say that anti-coagulants are neither necessary nor desirable for patients having their first attack and presenting no unfavourable criteria for recovery at the time of their first examination. Only about 30 per cent. of all patients with acute myocardial infarction need anti-coagulants and age is of no significance either for the immediate prognosis or as an indication or contra-indication for anti-coagulants. All should depend on the patient's initial appearance.

I think I can say that in some of my cases the occurrence of femoral venous thrombosis and pulmonary embolism might have been prevented by anti-coagulants: seldom do I think they would have influenced the primary heart lesion and I am not aware that embolism from the mural clot over an infarct has been responsible for death in many cases.

Just recently Wright, Marple and Beck (1955) have published in America a study of 1,031 cases of coronary disease. They mention that in the U.S.A. every year 200,000 persons die from myocardial infarction and 600,000 to 800,000 suffer attacks; 52 per cent. of the patients were under 60 years of age and of these 87·3 per cent. were males. About half were given anti-coagulants and half were not, and putting the matter very briefly they conclude that the benefit of anti-coagulants was apparent in all age groups but greatest in the 50–69 group, that anti-coagulants are effective in both mild and severe cases and that both types will benefit by protection from the outset. They suggest that the screening for good-risk cases involves a great possibility of error.

Faced with divergent views and not being a clinician I asked an opinion from a cardiologist friend who summed up the position as follows: There are three groups of cases: (1) those with a mild lesion where pain is of brief duration, illness short and patients active in bed from an early stage with very little fall of blood pressure; (3) those with profound shock and great fall in blood pressure who are obviously not going to do well. These two groups do not require anti-coagulants. (2) The intermediate group where the decision is a problem. In this group, while anti-coagulants may have no effect whatever on the coronary arteries they may prevent the formation of mural clots and tend to diminish the liability to venous thrombosis in the legs or pelvis.

My own feeling is that owing to the more generalized atheroma in the older age groups anti-coagulants are likely to be less effective than in younger people but I entirely agree that if they are given at all they must be given in a dosage which keeps the prothrombin time about 2½ times the normal and should be continued for some weeks. This necessitates adequate laboratory control. One does see examples of hesitant and inadequate treatment which can only be helpful to the doctor's mind and not of much use to the patient.

GROUP 2. ARTERIOSCLEROSIS

This is composed of cases where the cause of death was thought to be due to general arterial degeneration and hypertension not specifically or chiefly affecting the coronary

arteries. Much of what I have said about coronary arteriosclerosis applies here, including the fact that we have not found the answer to this problem. I think it is accepted however that the physiological changes in arteries due to ageing (deterioration of the elastic tissue and dilatation of the lumen) are not synomymous with arteriosclerosis which is patchy and affects the intima chiefly. It is of course well known that atheroma can start almost from birth. Still I suppose this group does represent the nearest approach to what 30 years ago would have been called senility. About one-seventh of the deaths were in this group and they include several dissecting aneurysms.

The surprising thing very often is not that the patients have died but how long they have lived, and in many cases been reasonably active, with such gross and generalized changes; the fact that the development of the condition is so gradual is I suppose the answer as it gives the body time to work up every sort of device to ensure an adequate circulation. As long as the blood supply to the heart itself is reasonable the rest of the body can put up with an awful lot.

Another point which interests me, and to which I do not know the real answer, is how rarely peripheral emboli causing gangrene occur even when the aorta shows pronounced ulceration and is covered with large masses of blood clot.

Haemopericardium, in which the pericardial sac contained a mass of blood clot occurred in connexion with Groups 1 and 2 twenty-three times. I have seen so many of these in the South-West that I am no longer excited by them but they often give rise to sudden and dramatic death. In fifteen of these the haemorrhage was due to a ruptured acute infarct and in eight due to intra-pericardial extension and rupture of a dissecting aneurysm.

GROUP 3. NEOPLASMS

This group contains 134 cases, about one-fifth of the total cases under review, and constitutes the second largest cause of death as one would expect (79 were males and 55 females). I have included in this group cases in which death was accelerated by surgical intervention, some surgeons now disliking the term "interference". Even so, this figure does not I am sure represent anything like the total number dying from this condition as many cases, clearly verified by biopsy or radiography or by gross clinical findings, are not subjected to autopsy and many die at home.

Willis in his book on tumours suggests that the mortality figures for cancer, taken from death certificates, may not be far short of the " real " total but that figures for individual sites may have a wide margin of error, especially for internal cancer. This I think may well be true. Table V shows the sites of election in my series—lung, colon, stomach, rectum and prostate in men and pancreas, colon, stomach, rectum, uterus and gall-bladder in women. I cannot lay a stress on the lower incidence of lung cancer as compared with my Manchester series: there I was dealing with municipal hospitals where so many of these cases used to end their days.

I have only one general observation to make on this group—the condition was allowed to get to a surprisingly obvious stage in some of them before the patient, or perhaps occasionally the doctor, tumbled to the diagnosis.

GROUP 4. CEREBRAL HAEMORRHAGE AND THROMBOSIS

This group contains only 23 cases and seems a rather less common cause of death than one would expect.

TABLE V

NEOPLASMS
TOTAL CASES 134

SITE.	MALE.	FEMALE.
LUNG.	11	2
STOMACH.	8	5
COLON.	9	5
RECTUM.	11	4
OESOPHAGUS.	6	2
GALL BLADDER AND DUCTS.	1	4
PANCREAS.	1	4
KIDNEY.	6	1
PROSTATE.	7	–
BLADDER.	4	2
UTERUS (BODY).	–	4
UTERUS (CERVIX).	–	2
OVARY.	–	3
THYROID.	1	2
GLIOBLASTOMA.	2	1

GROUP 5. PULMONARY EMBOLISM

This was found on 46 occasions; as a " primary " condition following thrombosis of the veins of the legs in 10 cases but in 36 others, of equal sex distribution, as a complication or terminal event. It generally followed infection, trauma or operation or was secondary to heart failure. Although I am limiting my remarks to the over-65 group I see quite a lot of fatal pulmonary embolism in lower age groups and it is undoubtedly an important condition. Three things have struck me in my personal series: (1) Not all housemen are as aware as they should be of the frequency of this condition and sometimes inspection of the legs in patients likely to develop it is neglected. Swelling of one leg has frequently been noted for the first time on the autopsy table. (2) Some of the thromboses in the deeper leg veins seem to occur without either swelling or the classical pain and tenderness in the calf when patients are lying in bed. (3) In most cases the massive fatal embolism in which many inches of clot come away is not accompanied by evidence of preceding smaller emboli.

This subject has been discussed in a leading article in *The Lancet* (1955) in which it is called the " acute disease most likely to escape detection " and it is emphasized that the recognition of pulmonary embolism depends on constant vigilance. Deep-vein thrombosis should be treated immediately by anti-coagulants since in 10 per cent. of patients it is followed by fatal pulmonary embolism; treatment after a single small embolism may reduce the likelihood of a recurrence. Some authors go so far as to

suggest routine anti-coagulant therapy during the danger period when the patient first gets out of bed after operation or a serious medical condition. It is pointed out that pulmonary embolism is likely to grow in importance as a cause of death as the population ages.

GROUP 6. INFECTIONS

These present a wide scatter of causes and comprise only 34 cases (5 per cent. of the total). The influence of antibiotics and sulphonamides is seen very dramatically here. There were only nine deaths from lobar pneumonia, which used to be described as the "Captain of the men of death", and a similar number from broncho-pneumonia. I well remember from my own experience when lobar pneumonia in this age group had a mortality between 25 and 30 per cent. In my previous larger series of cases from Manchester (Table VI) infections caused about 11 per cent. of the deaths. The present figures probably represent the lowest reasonable figure obtainable.

TABLE VI

SUMMARY OF 1677 AUTOPSIES ON PATIENTS 65 YEARS OF AGE AND OVER (MANCHESTER SERIES)

CAUSE OF DEATH.	MALE.	FEMALE.	TOTAL.	PERCENTAGE.
CORONARY OCCLUSION.	58	45	103	5·7
ATHEROSCLEROSIS AND HYPERTENSION.	90	70	160	9·0
CEREBRAL HAEMORRHAGE AND THROMBOSIS.	48	44	92	5·0
CHRONIC BRONCHITIS AND BRONCHIECTASIS.	76	28	104	5·8
PROSTATE.	144	—	144	8·0
ACUTE INFECTIONS.	90	54	144	8·0
ACUTE ABDOMEN.	73	86	159	9·0
GASTRIC AND DUODENAL ULCERS.	66	27	93	5·2
CHRONIC NEPHRITIS.	14	17	31	1·7
BLOOD DISEASES.	16	18	34	1·9
TRAUMA.	24	24	48	2·7
TUBERCULOSIS.	41	12	53	3·0
CANCER.	342	170	512	28·5
TOTALS.	1082	595	1677	

GROUP 7. RENAL LESIONS

The 54 cases in this group were mostly men and essentially mean deaths due to enlargement of the prostate and its consequences—cystitis, pyelonephritis, uraemia

and post-operative deaths. Many patients still leave it desperately late before they seek medical aid and education is badly needed. I found a similar lot of late and neglected cases in my earlier survey when operation was performed when the kidneys were bankrupt. A genito-urinary surgeon with whom I discussed this recently said there were some medical men who still thought the indications for surgery were either acute retention or overflow incontinence. Until we discover the hormonal cause of this condition and the antidote I imagine that earlier surgery would reduce the mortality.

GROUP 8. ABDOMINAL CRISES

I think the group of abdominal conditions warrants further consideration as it makes up some 8 per cent. of the total. The distribution is shown in Table VII. It is of course common experience that for one reason or another some of these cases seek treatment at a very late stage and some will always represent bad risks.

TABLE VII

ABDOMINAL CRISES
TOTAL CASES 85

	MALE.	FEMALE.
HERNIA.	12	2
CHOLECYSTITIS.	4	5
PERITONEAL ADHESIONS.	7	2
PERFORATED GASTRIC ULCER.	5	4
GASTRIC ULCER – HAEMORRHAGE.	8	1
PERFORATED DUODENAL ULCER.	5	0
DUODENAL ULCER – HAEMORRHAGE.	3	3
HAEMORRHAGIC PANCREATITIS.	2	4
DIVERTICULITIS.	5	4
ACUTE APPENDIX.	2	0

A development which has interested me, especially since working in the South-West, is that age alone does not now contra-indicate quite extensive surgery and with modern anaesthesia and antibiotics a surgeon can assess a condition on its merits without worrying too much about the age factor. The outlook in this respect has undoubtedly changed for the better.

GROUP 9. BRONCHITIS AND BRONCHIECTASIS

Bronchitis is not an important cause of death in my series, even in the over-75 group. It is considerably less than in the Manchester series due partly to climatic

conditions and partly to the fact that antibiotics ward off or cure pneumonia and other chest infections which used to lead to a fatal termination in many of these people.

GROUPS 10 AND 11

Poisoning (I have maliciously included one or two anaesthetic deaths in this group) and trauma do not need further discussion.

When the Exeter figures are compared with those obtained from an earlier survey of some 1,700 autopsies in the same age group from the Manchester Municipal Hospitals (Table VI) two points must be borne in mind; (1) the lower figures for infections in the Exeter group are no doubt due to sulphonamides and antibiotics (2) the higher incidence of cancer in the Manchester figures is probably due to the fact that during the period 1938–48 a large number of cancer cases tended to end their days in municipal hospitals.

Perhaps I can sum up as follows:

(1) The three chief causes of death in this series were coronary occlusion, cancer and generalized arteriosclerosis in that order, and so far as these groups are concerned do not differ very widely from the Registrar-General's figures for the Country as a whole. The answer to these three problems we do not yet know. Cancer, as things are, will remain of increasing importance as the population ages.

(2) Infection has ceased to occupy the prominent place it once held.

(3) Chronic bronchitis does not appear to be one of the big five causes of death in older people living in and around Exeter.

(4) There is room for improvement in the deaths due to acute abdominal conditions and to enlargement of the prostate and its complications.

In conclusion I would like to say that I have only given a short review of one pathologist's work in one age group in a centre in the South-West and some *obiter dicta* which spring from a contemplation of these figures. I make no claim that these figures mean anything more than that.

REFERENCES

Anti-coagulants for Myocardial Infarction (1955). *Lancet*, **1**, 32.
Anderson, W. A. D. (1948). *Pathology*, 1st Edition, p. 574. Kimpton, London.
Gavey, G. J. (1949). *Lancet*, **2**, 725.
Gilcrist, A. R., and Tulloch, J. A. (1954). *B.M.J.*, **2**, 720.
Gregg, D. E. (1950). *Coronary Circulation in Health and Disease*, Kimpton, London.
Page, I. H. (1940). *Ann. Int. Med.*, **14**, 1741.
Report of Committee on Economic and Financial Problems of Provision for Old Age, (1954). Cmd. 9333. H.M. Stationery Office, London.
Russek, H. I., and Zohman, B. L. (1954). *Lancet*, **2**, 910.
Sheldon, J. H. (1954). *Lancet*, **2**, 151.
Warthin, A. S. (1928). *Bull. N.Y. Acad. Med.*, **4**, 1006.
Willis, R. A. (1953). *Pathology of Tumours*, 2nd Edition, p. 78. Butterworth and Co., London.

THE POSITION OF NURSING IN HOSPITALS IN BRISTOL

BY

STEPHEN C. MERIVALE

Secretary to the Board of Governors, United Bristol Hospitals

It is only after considerable hesitation and, indeed, with some trepidation that a mere hospital administrator ventures to write upon such a subject as the position of nursing in hospitals. The author of this article was, however, emboldened to accept the Editor's invitation to do so for two compelling reasons. The first is the intrinsic importance of the subject. The second is that all those concerned in hospital management are necessarily also concerned in problems of nursing staffing and that the nursing staffing of hospitals is, in turn, inextricably entangled with the problems of nurse training. I myself believe that there is no conflict, in the widest context, between hospital management wishing to staff its hospitals with the best nurses in the largest possible numbers and the leaders of the nursing profession desirous of improving the standards of nurse training and the arrangements for carrying it out. This is because, in the last resort, and over the country as a whole, standards of staffing will both follow and reflect the standards of nurse-training, or, to put it bluntly, I think that the hospital service as a whole will get the nurses its deserves. Thus it behoves hospital management to give the closest attention to the views of the nursing profession on all matters of nurse-training, which views management can only ignore or overrule at considerable risk.

There is, however, no doubt that there are occasions when there does appear to be a conflict between the apparent best interests of the hospitals in getting nursing staff and the student nurses themselves in getting the best training. It is no doubt partly because of these occasions that the Nurses' Act of 1949 set up the bodies known as Area Nurse-Training Committees. These Committees are statutory bodies responsible to the General Nursing Council. They contain representatives of the hospital authorities such as the Regional Boards and Boards of Governors and, in this Region, the Secretary of the Regional Hospital Board is also the Secretary to the Area Nurse-Training Committee. But it is the Area Nurse-Training Committee and not the Regional Board, Board of Governors or Hospital Management Committee which both

(*a*) approves arrangements made by hospital authorities for the training of nurses for all the various nursing registers and

(*b*) provides the necessary finance for such training, i.e., the salaries of nurse tutors, the fees of lecturers, the cost of equipment, &c.

The money provided under (*b*) above is separately voted by Parliament and passed to Area Nurse-Training Committees through the General Nursing Council. The object of separating this from the ordinary Health Service vote is presumably to ensure that in times of retrenchment and financial stringency, hospital authorities cannot look to nurse-training as one of their activities upon which it would be convenient to save money.

Such, then is part of the background—the administrative arrangements in the Service for dealing with nurse-training. The other, or larger half of the background is the training itself. Neither the profession, nor the Health Service has been quick to seize upon the recommendations of the pre-war Working Party on the Recruitment

and Training of Nurses. There has, as yet, been no attempt to merge separate registers maintained by the General Nursing Council for general-trained nurses, mental-trained nurses, mental-defective-trained nurses, sick children's trained nurses or fever-trained nurses. These five certificates have to be obtained separately in different training schools. There are also separate certificates awarded for orthopaedic and ophthalmic nursing. Finally an interesting and fairly recent development is the S.E.A.N. or State-Enrolled Assistant Nurse.

There are in Bristol and its immediate environs four Hospital Groups containing general training schools for nurses: Southmead, Cossham/Frenchay, the Homoeopathic and the Bristol Royal Hospital. There are two hospitals, Bristol Mental and Barrow Gurney, each with a complete school for mental training. There are four training schools for nursing the mentally defective, at Hortham, Brentry, Stoke Park and Purdown. For assistant nurses there are three training schools, Stapleton Hospital, Snowdon Road with the Walker Dunbar Hospital, and Berkeley and Thornbury Hospitals jointly. In addition nurses can train for the fever register at Ham Green, for the sick children's register at the Royal Hospital for Sick Children, and for the orthopaedic and ophthalmic certificates respectively at Winford Orthopaedic Hospital and at the Bristol Eye Hospital.

And now let us look at how these arrangements are working out in practice purely from the point of view of hospital management. First of all recruitment in the Bristol area is, generally speaking, healthy. The only rule that it seems to me safe to rely upon in the matter of recruitment of nurses is that there appear to be no rules! This statement is, of course, something of an exaggeration. The great London Teaching Hospitals enjoy and will presumably continue to enjoy, a superfluity of choice of candidates. Indeed, it is the normal thing for them to have 1,000 candidates for 200 places. We in the provinces are perhaps in one sense fortunate in that we can never expect to have such heavy responsibilities thrust upon us. We do, however, not infrequently have to exercise a choice and attempt to direct candidates aright. In the eighteenth century the Bristol Royal Infirmary, in need of a new matron, advertised for " a discreet and managing woman " and I believe the truth to be that in the provinces good matrons with powers both of management and of discretion, with a good hospital offering a good nursing training can recruit the students, not necessarily in the numbers required, but certainly nearly up to the establishment approved. It is, however, always necessary, in fairness to those whose hard task it is to recruit nurses, to remember the harsh limitations imposed by our national circumstances upon their work. There never have been and it is not likely that there ever will be, in any given year, enough girls born eighteen years previously of General Certificate of Education standard to "man" all the professions for women. It is, alas, arithmetically true that if nursing successfully claimed the lot there would not only be none left for teaching and the other professions but there would still be hospital beds unstaffed by nurses. This makes it all the more important to make the best use of all the students who do come forward for training and one of the most encouraging aspects of this is the enormous growth since 1948 of the assistant nurse training schools. In the South-West Region as a whole in 1948 there were 55 students entering 9 hospitals and in 1954 there were 266 entrants to 43 hospitals offering training to assistant nurses. This is a remarkable achievement not sufficiently generally known.

Other figures of interest are that the four general training Schools in Bristol have a combined establishment for 770 students and, at the time of writing, there are 586 nurses in training. With a rate of " wastage" much lower than the national figure this represents a very substantial increase in numbers since 1948 and the figures are still

going up, a position which reflects creditably on those concerned. The position is not so favourable as regards recruitment to either mental, mental-deficiency or fever nursing. The first two, however, are improving and the layman may perhaps be forgiven for thinking that the position as regards fever-training is overdue for revision. Chemotherapy has completely altered the traditional picture of the fever hospital of twenty years ago, which we shall certainly not see again.

To return once more to the recommendations of the Working Party Report (which repays another reading) both the doctor and the simple layman may perhaps be forgiven if they exclaim in astonishment that these matters, nationalized some six years past, have not already been rationalized too. Even allowing for "the leaden foot" of a nationalized bureaucracy it might be thought that before now someone could have improved upon arrangements which involved in an area the size of Bristol 16 different training schools for nurses teaching their students for no less than 5 different registers and 2 separate certificates. There is some force in such an argument but it is also as well to remember that there are considerations on the other side. These are:

(i) Nothing can be done on a large scale towards "rationalizing" nurse-training until a national lead is given by the General Nursing Council which has so far made no move in the matter.

(ii) A good deal has in fact been done in Bristol, as elsewhere, in the admittedly limited way that is all that the present regulations of the General Nursing Council allow, to give nurses the opportunity of a "comprehensive" training. Thus student nurses in the general hospitals go to Ham Green for three months' fever experience in their second year and this counts in their time programme if they later decide to do a fever training. In the same way nurses can choose to do in four years a complete training for both the General and Sick Children's Register between the Bristol Royal and Bristol Royal for Sick Children Hospitals. There are links between the ophthalmic and orthopaedic certificates and general training schools in much the same way. Other " comprehensive" arrangements are on the way between general students and the geriatric and mental hospitals. These wait only upon a further, confidently anticipated, improvement in recruitment. Finally much has been done in the sharing of facilities in preliminary training schools to concentrate the work and economize in the time of tutors and lecturers to nurses.

(iii) There is really a good deal to be said in favour of most of the present training schools and at the least one may be certain that it would be no substitute to recruit nurses to one " Bristol Training School". I cannot envisage ever building up an "esprit de Bristol" which would effectively substitute for the *esprit de corps* of the existing training schools with their individual traditions, both old and new, their special peculiarities and their own intimate connexions both geographical and otherwise.

(iv) Finally it must be faced that the different training schools can deal effectively with students of different educational attainments. A girl who might not make the grade in School " A " will successfully train in "B" and become an excellent practical nurse.

In conclusion I hope that your Editor will feel able to devote space to a further article on the situation and developments recounted above written from the point of view of nurse-training not from that of hospital management. But that article will have to be written by a nurse.

PAEDIATRIC COMMENT

" To begyn a treatyse of the cure of children we should declare somewhat of the principles of ye generacion; they being in ye womb, the time of the procedinge, the maner of the birth, . . . for as muche as these things are very true and manifeste, some perteyning to the offyce of a midwyfe, others for the reverence of the matter . . . and I will employ my studyes to the honour of God and profit of the weale publike."

In these words Thomas Phaer (1545) shows no mean insight into Child Health. There is no narrow view in this and a notable exclusion of any crippling specialism. We have moved a long way from " the diseases of children " to a wider view contained in the phrase " sick children ", and then on to the global notions implied in " Child Health ".

Medical knowledge and skills advance; so also must wisdom and all those matters appertaining to the love, care, kindness, well-being and human example upon which the rising generation may grow and flourish in physical, emotional and spiritual health, and security. Such is medicine with a very big M. Many persons are involved in all this and perspectives must be kept in mind. The home, the school, the street, and sometimes the hospital—or even an institution, may all come into the picture. More and more depends upon the human relationships existing amongst those who are engaged in the various and many contributions which are adding their daily impact upon the healthy or the sick child. The child's mind, like the body, is very labile for good or for ill, especially in the early and vulnerable years. No conflict of interests should warp a happy natural growth and progress.

Immense amounts of time and effort are being directed towards protection and care in child life and health. In fact, every responsible member of a well-ordered community is making some direct or indirect contribution. Voluntary and statutory arrangements abound, and, we always hope, closely co-operate. Governments may enact, but real effectiveness depends upon each and all running as teams and revealing a complementary effectiveness. To strive for health and to have a lively awareness of the possibilities in nature and nurture is an aspect of the Health Service yet to be more fully developed. Natural endowment and the environment are major determinants which need keen and subtle assessment. Thus each and all who can contribute to the sum total of the good in the home and the family and the community should themselves work and think together. Thus, doctors, medical students, nurses, midwives, health visitors and members of other services should continue to strive for unity of purpose and be increasingly happy in the knowledge that the rising generation will reflect the goodness accordingly.

Professor W. S. Craig has enlightened us further on these matters, not only in his book *Child and Adolescent Life in Health and Disease*, but in an address printed in this issue.

A.V.N.

PERSPECTIVE IN PAEDIATRICS*

BY

PROFESSOR W. S. CRAIG

Department of Paediatrics and Child Health, University of Leeds

I have often heard from Professor Neale of the many activities of your flourishing West of England Child Health Group. It was not however until I came to prepare my notes for this evening that I realized the difficulty of presenting a subject in a way likely to appeal to members sharing such a wide variety of interests in child health. The problem was to preserve a sense of perspective. Then it struck me—is preservation of perspective not a problem with which all of us are concerned? Hence the choice of subject for this evening.

UNIVERSITY DEPARTMENTS

There is I think hesitant perspective in the names given to university departments up and down the country. " Paediatrics " is out of fashion. It lacks reference to preventive considerations. None the less—derived as it is from the Greek word meaning therapeutics of infancy it has the merit of reminding us that, no matter the advances of what has been termed positive medicine, the need for treatment and cure will always remain. " Child Life and Health " appeals to me because of its associations with Edinburgh and because of its implied philosophy—but even so, it is not wholly satisfying. " Child Health " has the attraction of brevity and directness and puts paid to at least one perennial etymological joke; nevertheless it involves risks of over-simplification and encourages an attitude of mind which culminates in regarding those interested in the care of the child, whether in health or disease, as " baby doctors ".

IS PAEDIATRICS A " SPECIALITY "?

The term " Speciality " is not disparaging, but it implies specialization of the narrowest kind. This is entirely contrary to the interests of the children for whose health we are responsible. Indeed I would suggest that the time has come when we should exercise care in depicting the study and practice of child health as a speciality. I say this because the terms speciality and specialization have acquired a new significance of recent years. " Specialization " implies a high degree of skill and knowledge in relation to a group of diseases or conditions with a common anatomical, functional or clinical basis.

It may be argued that Child health is a speciality because it is concerned with a particular age range. But to say this is to ignore that childhood in the sense *we* know it is incapable of precise chronological definition. Would any of us venture to say at what stage in embryonic development ante-natal paediatrics begins? Or again who would deny that we have a contribution to make to post-adolescent follow-up care in the form of vocational guidance?

Furthermore, the expansion of child health as a study and practice has taken place on many planes. There is convincing evidence of this in the presence here tonight of family doctors, health visitors, district nurses and midwives. Child health knows no boundary separating domiciliary from institutional care. None the less underlying all paediatric activities is recognition of the home as the dominant factor in child life, and services intended for the care of child life must be based on the home and not on the hospital. Consider for a moment the services that exist—for

* Delivered to the West of England Child Health Group, December 7th, 1954.

the healthy, the ailing, the handicapped, the deprived and the delinquent child. Schools and clinics of many kinds, nurseries, convalescent homes, hospitals, children's courts, remand homes—all are involved. Nor should we forget voluntary organizations—Dr. Barnardo's Homes and The National Children's Home; youth organizations such as the Boy Scouts and Girl Guides associations, the Boys' Brigade, and the many boys' and girls' clubs; the St. John Ambulance, the British Red Cross and Women's Voluntary Service. Each in their own way supplements the statutory services administered through welfare, school health, children's and mental health committees. None of us can afford to ignore the work of these numerous aspects of child health.

That being so, and to return to my original point, can we afford to perpetuate the conception of child health as a specialist study in the modern sense of the term? I think not, if the *total* work of those engaged in the care of child life is to be presented in its true perspective to our professional colleagues and to the general public.

So much, then, for perspective in so far as it concerns the relations of child health on the one hand and general medicine and general sociology on the other. And now, what of a sense of perspective within our own ranks? When I say in our ranks I have in mind all—and " all " without reservation—all concerned with the care of child life whether in home or foster-home; in hospital or school; in voluntary, official professional or lay capacity.

SPECIAL INTERESTS

If we are honest we must admit that the subject we have in common and at heart is always liable to a certain risk of fragmentation because we each have our particular interests. We find difficulty in seeing the work of others in proper perspective and we often fail to see ourselves as others see us. The paediatrician is no exception. For too long too many of us have allowed hospital considerations to restrict our studies.

True, there has been a change of recent years. An active *entente cordiale* links us with the infant welfare and school health services. But the recently published survey, *The Thousand Families in Newcastle upon Tyne*, reminds us that our perspective is still in need of adjustment. We have still to learn how and what to teach the medical student. To do this we can learn from the practising family doctor. The late Sir James Spence and his collaborators made a plea for what they call " a continuing process of mutual education " between specialist and family doctor in order that they may be the " better equipped for the care of children".

DOMICILIARY AND INSTITUTIONAL CARE

I feel sure that this process of mutual education is one of the objectives of your Group. It is a principle which I should like to see extended far and wide, and expanded to include all workers engaged in the care of child life. I am convinced the activities of midwives and health visitors would benefit were they kept better informed of advances in each other's work. I am equally certain that the skill of the trained sick children's nurse in hospital would be enhanced had she regular opportunities to study the work of the health visitor and district nurse on the field. The reverse is equally true. Were a district nurse or health visitor to come into hospital out-patients departments *and* hospital wards at regular intervals, her work on the field would benefit from increased understanding of what her colleagues in child care are doing. A similar approach would do much to solve prevailing misunderstandings between the almoner and health visitor.

I would urge that there is a need for periodic interchange of workers on the field with those in institutions. This implies interchange among employees of different statutory bodies. It may well be that disturbing administrative adjustments would be required—but a nicely balanced smoothly running administration is not efficient

which curbs the professional efficiency of its officers, and which prefers that the child shall adapt itself to the administrative framework and not the framework to the child.

SOME MISUNDERSTANDINGS

There are many misunderstandings the causes of which are to be found in inherited antagonism and in the dictates of theoretically wise economy. The relations between voluntary and municipal effort often lack harmony to the detriment of the child. And there is no denying that the relationships between the family doctor and his colleagues in the environmental services are not everywhere what they might be. Of course, personalities offer part of the explanation—but only a very small part. Fundamentally we are still suffering from inability to see paediatric history in perspective. Is it not time that once and for all voluntary and municipal effort should recognize and accept their mutual indebtedness? Many a children's voluntary organization today owes its own survival and survival of its ideals to public money; and many a local authority service for children traces its origin and inspiration to private endeavour. Then, too, there is the family doctor who resents the intrusion of the welfare services—but, is it really this that he resents? Is he not perhaps keeping a rather tattered flag flying? And do infant welfare and school medical officers not rather often anticipate antagonism where there is no need? I well remember my father's chagrin on his return from the First World War to find infants in his practice attending a previously undreamt of child welfare clinic. The care of children had always been one of his main interests and the finding came as a shock to his professional pride—but he soon accepted the situation with a smilingly good grace which will always remain a lesson to me.

PERSPECTIVE IN ECONOMY

Turning to economics, sound or unsound—new proposals often fail to secure the necessary support on the grounds that they are too narrowly specialist in conception. None the less the net result of insistence on economy in one speciality is sometimes to facilitate prodigal expenditure in another. Economy is a virtue in those responsible for the distribution of funds whether public or private. But surely control of expenditure must have a positive as well as a purely negative purpose. Poor Law relief was once described as a salve to the public conscience. Be that as it may, execution of the Poor Law was sometimes and in some places concerned primarily with conserving national income and only secondarily with the promotion of improved social conditions. This attitude should have no place today.

True perspective in economy requires two things. The first—less attention to the relative merits of this or that interest, and more consideration of the total needs of the child community; and the second—if we are sincere in our endeavours for children, greater thought for generations as yet unborn, indeed, as yet not conceived.

I should like to illustrate my points if I may. You know of several international schemes furthering large-scale efforts on behalf of children in the so-called economically backward countries. I have no first-hand knowledge of these, but talking with those who have, I have been impressed by the anxiety expressed lest measures on behalf of mothers and children in these countries should be developed independently of other measures directed towards the advancement of general medical and general public health services. Put another way, concentration on child welfare is only partially effective if such co-existing problems as those of epidemiology, sanitation, nutrition, husbandry and even stock-rearing do not receive equal and simultaneous attention.

You may say that we in this country do not know the ravages of malaria and worm infestation; we have, comparatively speaking, a safe water supply and sound measures of sewage disposal; and we import what we lack in the way of meat and grain. This may well be so; but whether it be in Europe or in Eastern Asia the requirements of maternal and child welfare are but one facet, in the needs of national welfare.

And to particularize—I would say that, the world over, child welfare has in common the problem of housing no matter whether the unit of housing be a croft, a basement room, a tenement dwelling, a mud hut, wigwam or kraal. My subject is perspective in paediatrics. When we recommend expenditure on this and that refinement of the hospital and clinic care of children, we should be mindful at least of the extent to which our demands may interfere with remedying the greatest single source of the many clinical and social problems with which we have to deal—housing.

COMPLACENCY CONCERNING ENVIRONMENT AND HOUSING

If perspective is vital to successful paediatric care—and I think it is urgently so, then collectively we should spare no effort in making accelerated large-scale improvement of housing conditions the spearhead of progress in child care. In saying this I am not ignoring the substantiated claims of successive governments in this connexion. But I ask you—think of the worst homes from which children come to you for guidance and help. If *you* had been born into such circumstances, or if *you* had had to bring up a family in such surroundings—what would *your* reactions have been? What effect would environment have had on *your* development as an independent citizen? We accept our own good fortune, and the misfortune and mischances of others far too complacently. Indeed no matter the position we hold, our good fortune—whether in the matter of birth or career seriously handicaps our sincerest endeavours to understand the mischances of our fellow human beings.

We still have a long way to go to give effect to the words of the American philosopher John Dewey (1859–1952):

"What the best and wisest parent wants for his own child that must the community want for all its children."

In the present century paediatric care has experienced many thrills—the virtual disappearance of deficiency diseases, scarcely believable advances in therapy, traditional beliefs dispelled and rare unsuspected conditions revealed by new biochemical methods, modernized approaches to physical and mental handicap, and frank recognition of deprivation in childhood. But whatever the thrill of individual advances they must be seen in relation to the total needs of child care.

I spoke of deprivation in childhood. The Children Act is concerned with children deprived of normal home life. These children are considerable in number but their number is as nothing compared with those who know only such of home life as their inadequate and overcrowded housing conditions permit. Surely the problem demands greater urgency of insistence on the part of those devoted to the care of child life.

In other countries schemes to counter deaths from prematurity have been criticized because they ignore the probability of death from starvation in later childhood. It is argued that perspective is lacking. Measures for the promotion of health in childhood in this country are equally lacking when they fail to urge the paramount need for housing to have priority consideration.

But the problem does not end there. Child health—physical, emotional and mental—cannot be considered apart from family health. Already geriatric problems in an ageing population are having their repercussions on domestic and community aspects of child life. Measures for the care of child life must be developed with an eye to the future when the force of national economic circumstances may well deprive child care of much of the favoured consideration it now rightly receives.

Planning must be realistic. Effective child care is dependent in the last resort on sustained national well-being, and national well-being can brook no waste of resources whether of finance or woman power. And I would suggest that the one certain way to ensure long-term—and perspective in paediatrics must have regard to long-term considerations—the one certain way to ensure long-term economy is to concentrate *now* on housing—even if this involves curtailment of ambitious hospital and clinical extensions for children. I would even add *ambitious* school extensions.

I am afraid I am in danger of giving the impression that perspective in paediatrics is an entirely domiciliary problem. This is far from being the case. If I am honest I must admit that I have left hospital considerations to the last because they leave me more bewildered than any others. Perhaps it is that near perspective is less precise than distant perspective.

HOUSE PHYSICIAN AND REGISTRAR

And the first of these problems is the position of the paediatric registrar and the house physician. Frankly my sympathies are with the house physician. In the early years of my training there were no registrars and I received a grounding from my close friend and former chief Professor Charles McNeil which, even had I his sagacity and ability, I could not give to my house physicians today. This is the more unfortunate because today the clinical material in the wards is less typical than it used to be of the general run of domiciliary diseases in childhood; and because, whatever the individual student's ultimate objective may be, his first aim should be to acquire knowledgeable experience of general practice.

I am convinced that future preventive and curative domiciliary care would derive immense benefit were apprenticeship to a family doctor required as part of the pre-registration period. I served no conventional apprenticeship—but, as the son of a family doctor, I grew up in an atmosphere of general practice, and in reality my apprenticeship started unbeknown to my father or myself long before my student days. With each year that passes I realize the irreplaceable value of that unconscious introduction to medicine in general and to child health in particular.

The problem is how to convey something of that to the house physician. For help we should turn to the registrar—he holds a key position. If he goes the wrong way about things he can lead the recent graduate by way of the laboratory and the X-ray department to a conception of disease in childhood epitomised in the tabulated transactions of learned societies. On the other hand I know of no greater source of strength to a department than a registrar who despite his own mastery of skilled techniques and laboratory data, normal and abnormal, helps the young house physician to master basic physical signs; to consider physical signs in terms of diagnosis and prognosis; to assess clinical findings, etiology and after-care in relation to a background of home; and then, and only then, to understand where and how laboratory and other aids can and should be utilized to confirm or supplement clinical deductions. In other words perspective should form an essential part of the instruction given the house physician by the registrar—the registrar and the house physician benefit each in their own way, and by studying and watching the process of mutual instruction I invariably learn even more than they do.

THE NURSE AS CLINICAL COLLEAGUE

And then there is the position of our nursing colleagues—whatever the dependence of the surgeon on his operating theatre sister we owe infinitely more to those who help us in hospital and the home—as ward and out-patient sister, district and home nurse, health visitor and midwife. From whom did we learn the elements of infant feeding? Who is it who so frequently makes the subtle clinical observations which prompt early recognition of post-natal intracranial damage, of urinary infection, of pneumonia or of commencing gastro-enteritis?

The answer to all these questions—is sometimes the mother; more usually; our nursing colleagues. Not only do they carry out the treatment we recommend, but in addition to giving continuous skilled nursing care they help us with diagnosis, with the evaluation of progress and with the planning of subsequent care. In an age when laboratory medicine is in the ascendant, we would do well in our own interests to remember how little we have acknowledged and how much we still depend upon the clinical observations of the skilled nurse. I require it of my house physicians that

they include in their notes the salient observations made by the sister—credit being given where credit is due. In this way I aim at encouraging the future family doctor into a way of clinical approach and thought which both accepts and expects professional partnership with the nurse in domiciliary practice.

To return to the hospital ward sister for a moment—much as we value her for clinical help we should remember how much we depend upon her for the efficient administration of our children's wards. The National Health Service has brought about many changes in hospitals. One thing it has not altered. It continues to take for granted the selfless devotion of the ward sister without which no children's ward can ever function effectively. This is an age-long tradition; but I do suggest the time has come when we as professional colleagues of these sisters should ensure that management committees see the demands made upon ward sisters in proper perspective. I am thinking less of children's hospitals than children's wards in general hospitals. In certain general hospitals nursing duties are being undertaken to an increasing extent by assistant nurses, orderlies and even cadets, a number of whom are engaged on a part-time basis, and who are never required to be on duty at the week-ends. The same applies to domestic staff. I know the administrative difficulties—but is it right that demands of orderlies, cadets and domestic staff should be met by ward sisters giving up their off-duty time? This cannot go on indefinitely, and should a major crisis arise hospital care of the child will experience an irretrievable set-back.

THE OBSTETRICIAN AND MIDWIFE AS BENEFACTOR

I have spoken of clinical medicine. I wonder if those of us who practice paediatrics, and in particular those of us who have the privilege of teaching the subject, always realize our good fortune in being allowed to look after the newly born. No other clinical material offers so numerous and so unexpected challenges to our clinical acumen. At the risk of betraying lack of perspective I must confess to knowing no greater clinical thrill than in assessing clinical progress in an ill newborn child with the object of giving a sound, honest, tentative prognosis while diagnosis is yet uncertain. And where else are there such opportunities for studying health and disease side by side, and for acquiring insight into the mutual ties which bind mother and baby?

I spoke of our good fortune in being *allowed* to look after the newly born. I *meant* " allowed "—because the more enthusiastic the physician, the more liable is he to forget his debt to the obstetrician. It is very sobering to read paediatric history and to learn how much medical care of the child no less than of the infant owed to the obstetrician in the eighteenth and nineteenth centuries. For my part I feel that as paediatricians we must at all costs avoid possessiveness when taking advantage of the free access given us to the neonate.

Paediatric care, if it is to be true to its declared principles must foster the conception of inseparability of mother and child. This to my mind is only possible if the rôle of the paediatrician is to help the obstetrician in his care of the infant on behalf of the mother. You may say " But surely this is always the case ". Certainly, that is the position in domiciliary practice and in maternity hospitals where there are no special baby units. None the less there is always the danger in the teaching hospital that zeal in care of the baby may lead to forgetfulness of the obstetrician—and an even less pardonable crime, forgetfullness of the mother.

A further consideration in the teaching hospital is that the paediatrician undertaking care of the babies must be prepared to teach not only the medical student, the pupil midwife, and the paediatric staff, but also the junior obstetrical staff, many of whom will eventually leave to take up more senior appointments where they will have to undertake the emergency and more immediate care of the newly born infant. I stress this because I know full well I myself was slow to realize how essential it is in the interests of infant care in general, that instruction in specialized management

of the neonate must be freely extended without let or hindrance to the obstetrical house physicians and registrars.

If I was slow to acquire perspective in that connexion, I was less slow in another direction. I had just completed a first draft of what I thought was a rather satisfying paper based on ten years' work. My usual practice is to pass such drafts to a registrar for criticism. On this occasion the comment I got was " Yes Sir! It's all right but I'm afraid it shows no knowledge of neonatal care in the labour ward! " And he was perfectly right! My study of the neonate commenced in the days when having made sure the honoraries had completed their rounds one used to slip timidly in an out of the lying-in wards while the ward sisters were at tea. The labour ward never entered into my ken—one might as well have tried to seek entry to a sacred temple. Today things are very different and the paediatric registrar of today should realize his indebtedness to the obstetrician and the midwife for his improved perspective in neonatal paediatrics.

CLINICAL PERPLEXITIES IN RETROSPECT

There are many other clinical problems in which what I can only describe as emotional considerations make for difficulty in preserving a sense of perspective. There is for instance the mongol baby of a few days old who develops signs of acute intestinal obstruction. Or the spastic microcephalic infant who has survived his first birthday and develops a fulminating descending respiratory infection. What should be done in these circumstances? Should modern skill and therapy be used to prolong severely handicapped lives the span of which used to be limited in the natural course of events? Many factors call for consideration—not least of which are our moral and religious convictions. I do not know what the answer is. It is not as if the answer were for oneself—it is for another.

And yet there is the other side to the question. In the early days of streptomycin treatment of tuberculous meningitis I frequently found myself asking the question: Am I really entitled to pursue treatment associated with scant hopes of survival and scantier hopes of a gratifying end-result and with inevitably prolonged harrowing distress to patient and parents? Even when, with advances in treatment, the prospects of good results improved considerably it was not easy to embark on a course of treatment involving the daily lumbar puncture over months of, even the bravest of children. I can still hear the little girl being prepared by the kindliest of sisters for lumbar puncture crying plaintively:

" No today, tomowwow Sister. I winna cry tomowwow, Sister."

I often wondered if the right decision had been made. Today I have no doubt. At this moment I have under my care four children who, earlier in the year, were admitted to hospital with tuberculous meningitis and who are now running about to all outward appearances healthy and happy—none of them having been lumbar punctured more than two or three times, and then only for diagnostic or follow-up purposes.

Perhaps I am foolishly sensitive, but I confess to never before having known such a sense of relief, gratification—call it what you will, that such a merciful advance in treatment should have become a practical reality. I have had to adjust my perspective—and I realize that today's relief stems from the distress and the courage of the patients and parents of those earlier but not very distant days.

NATIONAL GOOD FORTUNE IN AN UNCERTAIN WORLD

My time is far advanced. The subject I have chosen is limitless. There are a dozen-and-one important aspects which I have not touched upon—all of which is evidence that in choosing my subject I lacked the very thing for which I am pleading! There is the long, arduous, working day which is imposed on many children by ambitious parents and which often exceeds in length that of the labourer, craftsman or office-worker. There is the problem of infant feeding management with its many

variables—the child, the mother, the food and the too readily forgotten, most variable of all variables, the skill of the professional attendant. And there are the unpredictable reactions to education for child health on the wireless—reactions which sometimes betray how easily errors in perspective in medical matters can be conveyed to the laity. I must desist—however! BUT—if I may use the word " perspective " for the last time, may I ask you to see our good fortune in this country in its proper perspective? We cannot afford always to see things through rose-tinted glasses because children in these islands receive care than which there is no better in the world.

In our own Continent of Europe you have not far to go to see nutritional anaemia, and active rickets of a severity and in numbers that have not been seen in this country in the present century. Travel west and, I am told, there you will find cities famed for their pioneer scientific paediatric research situated amidst vast rural populations where child care receives little organized attention. Visit the east, and there there are poverty, ignorance, malnutrition, starvation, affecting not tens and hundreds, but thousands and hundreds of thousands of children.

It always strikes me as strange that in a world in which countless deaths among children still result from poverty and starvation, in a world in which only the very few are tolerably housed—it should be thought worth while to devote so much time and money to research into the study of the causes of delinquency. There is no denying the truth of Joseph Joubert's (1754–1824) dictum of over 150 years ago:

" Children have more need of models than of critics."

One of the most recent studies was concerned with the behaviour problems of children born while a world war was in progress. Is the delinquent child any more irrational in his response to surroundings than the vagrant pauper child of two centuries ago; or any more irrational than the adult of the present century, who knowing want, sees no delinquency in resorting to aggression and war?

We should indeed be thankful that an Indian representative of U.N.I.C.E.F. could recently broadcast:

" Whatever nations think of each other, they usually wish well for each others children."

CHILD HEALTH—A COMMONWEALTH OF INTERESTS

Child health cannot be viewed separately from the wide considerations of national well-being. Nor can the health of any one nation be considered as something apart from the health of mankind as a whole. The world population increases as food resources decline, and population increases more rapidly where poverty is most prevalent and food resources are least adequate. Paediatrics must be considered against this background. Failure to do so is to ignore global influences which will without question one day have the most far-reaching repercussions on your work and mine; on the work of those who follow us; on the care of child life in this country; and on the standards of child health throughout the world.

For this reason I should like to feel that to-night I have left with you a conception of paediatrics as a Commonwealth of Interests in the Care of Child Life. The term Commonwealth will always be associated with the name of that great statesman the late Field-Marshal Smuts. Let me, then in conclusion remind you of these words of his:

" This Commonwealth is peculiarly constituted. It is scattered over the whole world. It is not a compact territory and it is dependent for its very existence on world wide communications—communications which must be maintained."

THE NEW OUTLOOK IN OTO-LARYNGOLOGY*

BY

R. SCOTT STEVENSON, M.D., F.R.C.S.Ed.

Consultant Ear, Nose and Throat Surgeon, Colonial Hospital, Gibraltar; Consulting Surgeon, Metropolitan Ear, Nose and Throat Hospital, London

INTRODUCTION

My first duty, and indeed pleasure, is to thank the Council and Senate of the University of Bristol for the honour they have done me in inviting me to give the third Watson-Williams Memorial Lecture—a compliment I appreciate all the more when I have learned that my two predecessors were my distinguished colleagues, Mr. Mollison and Mr. Negus, both of whom I hold in the highest regard. I knew the late Dr. Patrick Watson-Williams over a period of some fifteen or sixteen years—and he was a man who in our specialty was regarded with affection as well as admiration. The *History of Oto-laryngology* refers to him in the words, " He is remembered as a genial and wise rhinologist." Patrick Watson-Williams will always be remembered in the history of medicine as a pioneer in Britain of the systematic study of the nasal sinuses, who emphasized in particular the connexion between chronic nasal sinus infection and general diseases. He qualified here as a doctor in the eighties and, like most of his contemporaries, graduated into laryngology by way of general medicine, for he was assistant physician to Bristol Royal Infirmary for seventeen years, until he became a full physician and was put in charge of the nose and throat department which, due mainly to his own efforts, was instituted in 1906; four years later there was added the ear department, which, as was usual then, had been in the charge of a general surgeon. As early as 1894 he had written a textbook on *Diseases of the Upper Respiratory Tract*. Dr. Watson-Williams was one of the standard-bearers who, along with Felix Semon, Peter McBride, Herbert Tilley and others, fought for the recognition of laryngology as a distinct specialty, using the word in its widest sense as including diseases of the nose as well as of the throat; he became a skilful surgeon, who devised new nasal operations and ingenious techniques, and he contributed copiously to the professional literature of his time, notably his book on *Chronic Nasal Sinusitis and its Relation to General Medicine*. It is the emphasis that he laid upon this important link that forms the permanent contribution of Patrick Watson-Williams to the art and science of medicine.

THE " NEW OUTLOOK "

What is the " new outlook " in oto-laryngology that I have taken as my subject tonight? Briefly, it is the change of direction away from anatomy and pathology towards physiology and restoration of function, including rehabilitation. Today an ear, nose and throat specialist must be a psychologist as well as a craftsman, a physician as well as a surgeon. But do not let me be misunderstood: no doctor can become a competent oto-laryngologist without a sound general surgical training and a thorough grounding in anatomy and in pathology, testified to by the searching examinations that he must pass for a surgical fellowship. It is a pity, indeed, that life is so short; for the modern

* The Watson-Williams Memorial Lecture, given at Bristol University on 8th March, 1955.

oto-laryngologist, with his National Service, his general and specialized training and his examinations, is unlikely to get out into the world to earn his livelihood as a consultant before the age of 32 or 33.

IMPROVED ANAESTHESIA

In my time, the outstanding advances in oto-laryngology have been due to the improved methods of anaesthesia, the discovery of the antibiotics, and the improved techniques in radiotherapy. Blood transfusion—which I remember as exciting and tentative in France in the 1914–18 War—might also be included, as improved methods of testing the patient, preparing and storing the blood, and carrying out the technique of transfusion have made it an everyday affair in surgery, and we use it sometimes in laryngological operations; on a few occasions I have even had to employ it in haemorrhage after tonsillectomy. But, when I look back, improved anaesthesia and the antibiotics are what have mainly changed our outlook in oto-laryngology.

In my younger days I had the distress of witnessing two deaths upon the operating table: in both, death was due to shock, and the cause was not too deep but too shallow an anaesthetic—one was chloroform, the other ether. But I can truthfully say that in the last twenty-five years I have never even had to think about the anaesthetic at an operation, and modern anaesthetic apparatus with new anaesthetic agents, intubation, intravenous barbiturates, relaxants and hypotensive drugs to lessen haemorrhage, have all made operations safer and more comfortable for both patient and surgeon. It was the work of the anaesthetists Magill and Rowbotham, working in plastic surgery units immediately after the 1914–18 War, that marked the beginning of modern anaesthetic technique. Most of the advances have been British in origin, and undoubtedly the improved training and improved status for the anaesthetist in this country have contributed greatly to these advances: the anaesthetist has become the "clinical physiologist" of the surgical team.

ANTIBIOTICS

Nothing, however, in my time has altered diagnosis, treatment and prognosis in oto-laryngology so much as the introduction of the antibiotics. It is right that Sir Alexander Fleming has been universally honoured as the discoverer of penicillin, though he never developed it so that it could be applied clinically. But Fleming lit the spark, as someone will doubtless light the spark in cancer research which, despite the devotion of scientifically-minded workers all over the world, has somehow never found the right direction. He put his observations on record, in the *British Journal of Experimental Pathology* in 1929 and there it was for Florey and Chain and their colleagues at Oxford to find, in their wartime researches eleven years later.

I remember, when I was a First Assistant (what is now called a Registrar) in the Ear, Nose and Throat Department of University College Hospital some twenty-five years ago, and doing all the emergency operations, there was an influenza epidemic which especially attacked the ears, and I performed forty-two acute mastoid operations in five weeks; in 1953, my last year in London, I performed only three. Such is the enormous change in the incidence of acute mastoiditis. The general practitioner now gives adequate doses of penicillin in cases of acute otitis media and the infection seldom reaches the mastoid.

The old signs of mastoiditis are no longer seen—the tender swelling behind the ear, the displaced auricle, the profuse ear discharge, the tender and sagging bony meatus, the persistent rise of temperature and increased pulse rate. In spite of what I have just

said about the comparative rarity of acute mastoiditis, I happen to have been asked to see two cases within the past six weeks.

One was a young soldier with an ear that had been profusely discharging off and on for a month and, as he had had a rise of temperature, had had full doses of penicillin, which were still being continued. When I saw him, there was no mastoid tenderness, no fever, a quiet pulse. But his meatus filled again with pus when I mopped it out, tuning-fork tests showed marked middle-ear deafness, and x-ray films showed cloudy mastoid cells on the affected side. A cortical mastoid operation revealed all his mastoid cells on that side full of glairy muco-pus.

The second case was a man of 30, who looked very ill when I saw him, with severe headache and some head retraction. There was no mastoid tenderness, but his doctor assured me that there had been mastoid tenderness a few days previously. His ear drumhead was intact and moved freely with Siegle's speculum, but his doctor assured me again that there had been a perforation a week or two before, and considerable ear discharge then. Examination showed some degree of middle-ear deafness. His temperature and pulse-rate were both normal. He had had several millions of units of penicillin, also aureomycin and terramycin. He looked so ill that I did not have an x-ray taken, but had him up to the operating theatre within the hour, when the second stroke of my gouge released a stream of foul-smelling pus from the tip cells of his mastoid—the micro-organisms were subsequently found to be penicillin-resistant. He was sitting up for lunch next day.

I give details of these two cases to show how greatly the signs of acute mastoiditis have changed, and how one must rely nowadays mainly on an accurate history, evidence of middle-ear deafness, and x-ray films of both mastoids—as well as, to be true, our old friend " clinical instinct ".

It is an interesting fact that in most hospital otological departments, as the number of simple mastoid operations for acute mastoiditis has gone down enormously, so the number of radical mastoid operations is going up. This operation is being done mainly for the removal of that curious and potentially dangerous result of chronic infection, cholesteatoma. Its diagnosis is said to be aided by x-ray examination of the mastoid but I have not found personally x-ray reports to be very accurate in this regard. There seems little doubt that the otologist nowadays knows his temporal bone in more accurate detail than he used to do, and this I attribute to his training for and performance of the fenestration operation under magnification. Whatever else may be said for or against the fenestration operation, at least it has taught the young otologist the minute anatomy of the temporal bone.

It was the discovery of the antibiotics that made the fenestration operation a practical proposition, for the early pioneers gave it up because of the danger of causing acute labyrinthitis and meningitis. Maurice Sourdille carried out his fenestration operation in stages in order to avoid these infections, but under a cover of penicillin the modern fenestration operation gives rise to no such fears.

I remember the late Albert Gray, who died in 1936, and who was the leading authority on the pathology of otosclerosis in his time, saying to me that he preferred a dead otosclerotic, whose labyrinth he could examine with his microscope, to a live otosclerotic, for whom he could do nothing. The fenestration operation does not cure the disease—the cause of which is still unknown—but it does (in the vast majority of cases) help the patient's deafness. In other words, it helps the physiology of the labyrinth without doing anything for its pathology.

Although much experimental work on vestibular function has been done, there still exists considerable uncertainty as to the precise functions of the various structures comprising the labyrinth. The fenestration operation, in which a new window is made in one of the bony semicircular canals in order that the sound-waves can by-pass the fixed stapes, presents an entirely new experiment on sound conduction in the internal ear. There is no doubt now, from a study of the results of the fenestration operation, that the entire labyrinth must be considered as a physiological unit; so long ago as

1934 the experimental work on the labyrinth of Ashcroft and Hallpike suggested that at least the saccule of the labyrinth might well be concerned in hearing, as well as the cochlea.

THE NASAL SINUSES

With regard to the nasal sinuses—in which Dr. Watson-Williams was especially interested—the antibiotics have proved more useful in acute than in chronic sinusitis; in fact, my own experience has been that penicillin and the other antibiotics have been of no use in the treatment of chronic sinusitis, except that I give systemic injections of penicillin to help to avoid complications after operating on the nasal sinuses. I know that some of my rhinological colleagues use penicillin irrigations, sometimes with indwelling catheters, or a wax cream containing penicillin injected into the maxillary antrum, in the treatment of chronic sinusitis, but I am unconvinced that these measures are any more effective than irrigations of normal saline, unless operation proves to be necessary. I have always been inclined to be conservative in the treatment of acute nasal sinusitis, and in this troublesome condition penicillin and the newer antibiotics have proved a great blessing, employed, however, systemically, not locally—except that I have sometimes found penicillin aerosol helpful in early acute sinusitis.

I published a book on *Recent Advances in Oto-laryngology* in 1935 and a second edition in 1949, and it is very enlightening to compare the chapter on nasal sinusitis in the earlier edition with that fourteen years later. The earlier chapter was occupied mainly with the discussion of the technique of operative procedures upon the various nasal sinuses. In the later one the emphasis was much less on surgery and more on the rôle of nasal allergy and on the restoration of the function of the cilia of the nasal mucous membrane. So long ago as 1924 my old friend and colleague, Arthur Lowndes Yates, had shown that the ciliary movement is propagated along the surface of the nasal mucosa and maintains currents in the surface mucus which conduct microscopic bodies towards the ostium from within the sinus and towards the pharynx from within the nose. All operations on the nasal sinuses should be directed towards removing infection, bringing about free drainage, and restoring the activity of the cilia. Simple puncture and lavage of the maxillary antrum will often change the whole picture of a chronic nasal sinusitis, even a pan-sinusitis, and if an operation does have to be performed it should be radical; for example, it is many years since I performed an intranasal antrostomy—maxillary sinusitis will either clear up with repeated puncture and lavage with normal saline or will require the radical Caldwell-Luc operation.

We are rather inclined to use the word " allergy " as if we knew all about it, but in actual fact we still know very little about nasal allergy, except that it is a condition in which the tissues have become sensitized to certain agents (usually foreign proteins), leading to nasal irritation with sneezing, mucosal oedema, and thin watery nasal discharge containing eosinophil cells. I have come to the conclusion that nasal polypi are *always* due to nasal allergy and demand removal only for the sake of the nasal drainage; nowadays I am less inclined to undertake radical nasal operations to get rid of nasal polypi, and prefer to treat the allergy by anti-histamines and conservative treatment after simple removal of the polypi. Nasal drops or sprays may be helpful in these cases so long as they do not contain ephedrine, which is an irritant to the mucosa of nasal allergy.

LARYNGEAL CANCER

In laryngology the antibiotics have made extensive, radical operations very much safer than they used to be, though improved methods of anaesthesia have also contributed to this end. I myself, as recently as 1946, wrote that " laryngectomy is an

operation that even today many laryngologists hesitate to advise, especially since the introduction of radium and x-ray treatment". I was influenced then, I admit, by the recollection of the first four laryngectomies with which I was personally concerned many years previously, three of which proved fatal soon after the operation—one of them at his own hand. Looking back, I have to admit that my results in cancer of the larynx were not so good, in the years between the wars, as they should have been, owing to my reluctance to sacrifice the larynx: I was inclined to perform laryngo-fissure or hemi-laryngectomy, when today—under improved conditions—I would not hesitate to advise laryngectomy.

I remember well the attack that the late Mr. Lionel Colledge—who was a highly competent and experienced, if prejudiced, surgeon—made in 1945 upon the pretensions of radiotherapy in the treatment of cancer of the larynx. He said then that he believed that " the proportion of inoperable cases in radiological statistics had been exaggerated "; that " radiotherapy had failed to justify itself as a routine treatment for pharyngeal carcinoma, and still less for laryngeal carcinoma "; and that " one great difficulty in estimating the value of treatment either by x-rays or radium arises from the frequency with which the growth rapidly disappears and the organ regains a normal appearance—these cases are apt to be regarded as successful, but only too often within less than a year the tumour is found to be growing more rapidly than before and rapidly disseminating ".

But only ten years ago radiotherapy was looked upon, in the main, as a method merely of palliative treatment for inoperable cases of laryngeal cancer—out of 306 cases of cancer of the pharynx and larynx treated by radiotherapy by the late G. F. Stebbing before the end of 1936, only 21 were alive and free from symptoms three years later, but most of the growths were very advanced when first seen by him.

Today the attitude has changed: radiotherapy is, in my own experience and in that of others, the method to be preferred in cases of cancer of the larynx that are early and used to be considered " operable cases "; while surgery—usually laryngectomy—is on the contrary employed in those cases that are advanced and unsuitable for radiotherapy. Radiotherapy of malignant disease of the pharynx and of the nasal sinuses is unfortunately not in such a satisfactory state as in malignant disease of the larynx. Doctors everywhere have accepted the teaching of Chevalier Jackson and of St. Clair Thomson that no patient should be hoarse for a month without having his larynx examined by a laryngologist, but few of the cases of malignant disease of the pharynx or the nasal sinuses are diagnosed early enough. This is understandable in the pharynx, because of the slightness of the signs and symptoms: I have known a sarcoma of the pharynx incised more than once in mistake for a quinsy.

One-fifth of all patients with malignant disease of the nasal sinuses first consult a dentist and improvement in the results of the treatment of this refractory and fell disease cannot be anticipated until, at the slightest suspicion of malignancy, the nasal sinuses are x-rayed and a biopsy done. In my experience the best results so far have been brought about by a combination of surgery and radiotherapy. I remember the late Wilfred Trotter a good many years ago—before radiotherapy had reached its present excellence—telling me that surgery, with a good margin beyond the growth, would give hopeful results in many of these cases, for most of such growths, he thought, were not very malignant. The margin, however, may have to be somewhat extensive, and I have known a case in which the external carotid had to be tied, an eye and the floor of the orbit, half of the hard palate and the floor of the nose removed (by Mr. Alan Hunt, of the Royal Marsden Hospital). Perhaps I should add that with the aid of an efficient prosthesis this patient is able to earn his living at a catering job where

he has to interview strangers, most of whom notice nothing unusual about his appearance.

The speciality of radiotherapy, it should be remembered, originated in Great Britain, and British radiotherapists—notably in Edinburgh, Glasgow, and Manchester and at the Royal Marsden, the Middlesex and the Westminster Hospitals in London—still lead the world, as my friend Dr. Max Cutler, himself an outstanding radiotherapist of Chicago and now of Los Angeles, acknowledged to me only the other day.

The outlook in cases of laryngectomy has been completely transformed by the use of antibiotics and modern methods of anaesthesia, and one expects to see one's patient out of bed in twenty-four hours and out of hospital within ten days. We used to think the artificial larynx an important adjunct in helping a laryngectomized patient to speak —but today it has become obsolete. The patient who has had his larynx removed can be taught to speak without a great deal of difficulty: we still send such patients to the speech therapist for training before and after operation, but an experienced ward sister is a great help in this direction, and even more help is an old patient who has himself had a laryngectomy, looks well and speaks well enough, and so helps to give the patient confidence in himself. Mr. Tom Howie of Glasgow did a great deal for the laryngectomized patient when he founded the first Laryngectomy Club—an idea which has been copied at other centres, where old and new patients, who have lost their larynxes, regularly meet in a cheerful atmosphere of mutual assistance and teach each other how to swallow air and articulate with it.

LARYNGEAL TUBERCULOSIS

In collaboration with Professor Heaf of Cardiff (then Medical Superintendent of Colindale Hospital, London) I analysed in 1940 a series of 428 cases of tuberculous laryngitis which I had observed at Colindale—the largest series of cases of this disease that has been published in Britain. We found then that 15·08 per cent. of the patients suffering from pulmonary tuberculosis had the larynx involved; this contrasts with the figure of 18·77 per cent. which Sir St. Clair Thomson had found in 1924—but contrasts even more with the figure of 2 per cent. given by Professor Ormerod in 1954. Why should the incidence of tuberculous laryngitis have dropped in such a striking fashion? It is not only because of the introduction of streptomycin and the other antibiotics, for the drop was evident before they ever appeared upon the scene. The main reason, I believe, is the general improvement in the social standards of the population of our country, for, although tuberculosis is caused by a bacillus, it is due even more due to a poor family history, malnutrition, bad housing, and poverty. Another reason is the more efficient treatment of the disease, mainly from the surgical aspect: one sanatorium which I used to visit near London had not, in 1932, even an operating theatre, while in 1953 no fewer than 75 per cent. of the patients received surgical treatment of one degree or another.

The antibiotics have changed the whole outlook in tuberculous laryngitis. The series of 428 cases of Professor Heaf and myself extended over the five years immediately prior to the Second World War; but when, five years after the war, I tried to analyse another series of cases I gave up the attempt, because there were so few cases and none of them were advanced. At the first sign of huskiness or loss of voice the medical officer was accustomed to order streptomycin and PAS.

ADVANCES IN OTOLOGY

Only sixteen years ago, in January, 1939, the late Walter G. Spencer, a scholar and a historian as well as an eminent surgeon, wrote in the article on surgery in an

nniversary number of *The Medical Press* the following words: "Otologists seem aken up with minutiae about the mastoids . . . it is a depressing specialty." Walter Spencer was of course, wrong.

Two years before, Professor Maurice Sourdille, then of Nantes, had demonstrated his fenestration operation, on which he had been working for some years, at the Summer Meeting at Norwich of the Section of Otology of the Royal Society of Medicine, though it was received with small enthusiasm until Julius Lempert of New York streamlined it during the next year. In 1935 Mr. Mollison was already curing Ménière's disease by injecting alcohol into the external semicircular canal of the labyrinth—a method that Terence Cawthorne has improved upon in recent years with marked success in some hundreds of cases; and Cairns and Hallpike published their revolutionary paper on the cause of Ménière's disease in 1938. Ballance and Duel had published their successful method of nerve-grafting for facial paralysis in 1932. It was so long before as 1926 that Rudolf Magnus of Utrecht had described in *The Lancet* his fundamental experimental work upon the labyrinth, and W. J. McNally of Montreal, C. S. Hallpike of London, and other otologists had been making notable contributions to this aspect of otology from 1925 onwards. So that Walter Spencer, scholar and historian though he was, had obviously not been reading the otological literature. Otology is not mere handicraft—it is a branch of philosophy.

HEARING AIDS

Widely as the National Health Service has laid itself open to criticism—and I hesitate to think what Mr. Gladstone, that financial precisian, would have said about a Cabinet Minister who budgeted for a scheme to cost £132,000,000 per annum and which in its last year under his direction cost £460,000,000—it has at least awakened ear, nose and throat specialists in general in this country to the importance of careful testing of the hearing under proper conditions and to the value of hearing-aids in many distressing cases of deafness, especially when supplemented by instruction in speech-reading and auditory training. In this country before July 1948 there were only four more or less adequately equipped deafness clinics, though another dozen did help to provide hearing-aids in one way or another, sometimes only by a fortnightly visit from a hearing-aid dealer. Now there are fifty hearing-aid or deafness centres, and by the end of 1954 over 400,000 deaf patients in England and Wales alone had been provided with a Government hearing-aid. I hold no brief for the National Health Service, but one must acknowledge what it has done not only for the deaf people of Britain but also in stimulating among otologists an interest in the rehabilitation of the deaf.

There have been great developments in hearing-aids in quite recent years, most of the improvements being due to those people who are somewhat unkindly designated the "commercial" hearing-aid makers. The first practical electric hearing-aid was made before my time as a doctor, in 1898, but I can remember the first portable aid, made by the Marconi Company in 1924, which weighed about 28 lb. The most recent improvement has been the development in the Bell Telephone Laboratories of the "transistor", the efficiency of which is now substantiated and which is already taking the place in hearing-aids of the small thermionic valve. It consists of a tiny piece of the rare metal germanium, suitably prepared and mounted; this enables the high-tension battery to be withdrawn and only a cheap low-tension battery is required, which lasts for as long as 300 hours. Dr. Stacy Guild, that very wise research worker in otology at Johns Hopkins Hospital, Baltimore, once remarked to me that if hearing-aids had been as efficient twenty years ago as they are today, the fenestration operation would never have been heard of!

AUDITORY TRAINING

I take the opportunity of emphasizing, as I have done before, that there is little u in merely handing a deaf person a hearing-aid, Government-supplied or otherwi and a deafness clinic that does not have a member of its staff capable of carrying o auditory training is not doing its duty to the community and is, indeed, was Government money. My old hospital, the Metropolitan Ear, Nose and Thr Hospital in London, instituted in 1937 the first hearing-aid clinic connected with hospital. It kept going, under difficulties, all through the war, and was reorganize and re-equipped, with a full-time staff, in 1945. A full range of the commercial hearing aids on the " approved list " of the National Institute for the Deaf were made availab for trial and sold by the makers at reduced prices to the hospital patients. The almon made herself familiar with sources from which funds could be obtained to provide ai for deaf persons who could not afford to buy them and she was happy and proud state, when the scheme ended in July, 1948, that no deaf person had had to go witho a hearing-aid for financial reasons only.

But on examining the statistics of our hearing-aid clinic in 1946 and 1947 we fou that in 50 per cent. and 33 per cent. respectively of the cases, the hearing-aids pr scribed were being returned within a week or two, in spite of the trouble taken by o well-trained and enthusiastic staff, who were spending an average of over an hour o each patient. And when we read that in America at a Naval Veterans' Aural Centr as a result of a rehabilitation programme lasting a few weeks, 94 per cent. of the de patients were wearing their hearing-aids with satisfaction at the end of a year, r hospital board thought it worth while to send me to study the subject on the sp Early in 1948 I visited all the aural rehabilitation centres as well as a number of a clinics, from New York, Philadelphia and Washington to New Orleans, St. Louis Chicago, and I returned to London fully convinced of the value of auditory train not only from the point of view of the deaf patient, but also from the point of vie economy in the provision of hearing-aids.

If a patient is properly adjusted physically and psychologically to a hearing-aid an trained to make the most of his residual hearing with the help of the aid, he will co tinue to use the aid sensibly and, indeed, indefinitely. But he must realize its limitati as well as its advantages, for no hearing-aid can ever be as good as normal hearin and he must be reassured about the difficulties of the hearing-aid, persuaded of value, and instructed in its mechanics and its upkeep. In addition, he should rece instruction in speech-reading (which may be described as " lip-reading *plus* ", i.e. th study of the whole features and gestures of the person talking, as well as the movement of the lips), and, if necessary, in speech-correction, for a harsh, unmodulated voic such as some deaf persons develop, can be almost as great a handicap in communica tion as the deafness. In order to carry out this considerable programme, the instructo in auditory training should be a trained teacher of the deaf as well as a trained audio metrician. Few deafness clinics in Britain are fortunate enough yet to possess such member of their staff, but there is no doubt that she—it is usually a she—is essenti for its economic working from a long-term point of view.

Auditory training is a subject that has long interested me, but it must be emphasize that it is *not* a treatment of deafness. It improves understanding by helping the method of communication, and the deafness itself is not affected. In my younger days I wa assistant to Dr. George Cathcart, who introduced into this country many years ag the electrophonoide method of Zund-Burguet, which was in essentials a method o auditory training, three octaves of sounds within the speech range being forced upo the ears by this electrical instrument by means of vibrating earpieces. Zund-Burguet

a Frenchman, was not a doctor and his method of auditory training was not looked upon kindly by French otologists, for it is true that the method was empirical. But it was from Zund-Burguet that I learned about the early endeavours of Itard and the elder Urbantschitsch to carry out some form of auditory training. Jean Marie Gaspard Itard was a Parisian aural surgeon who published a good textbook on hearing and diseases of the ear in 1821 and deserves to be remembered for his pioneer work on the education and rehabilitation of the deaf. He showed that by systematic practice in listening the born-deaf child acquired an increased power of auditory perception; first, the child began to realize the difference between noises, then between vowels, and then between consonants. It was tedious work, but Itard considered it well worth while.

Victor Urbantschitsch in 1895 published the opinion that it was possible to teach partial perception of speech sounds to children who appeared to be totally deaf, and pointed out that tests of hearing made after auditory training showed that less than 3 per cent. of the pupils tested actually were in fact totally deaf. The ideas of Urbantschitsch were not accepted by other otologists in his native Vienna, and he was looked upon as rather a crank on the subject of the education of the deaf.

I have long been somewhat sceptical about the accepted methods of educating and training deaf children in this country and abroad. I know that it was so long ago as 1880 that at the International Congress of Teachers of the Deaf at Milan methods other than the oral system were thrown out of the window "amid scenes of great enthusiasm". But I have often wondered whether we can give deaf children any more help than they are receiving at present? I know that at Gallaudet College, Washington, D.C., the only educational institution for the deaf of university standard, they do not use the purely oral method, and I also know that there are a few sceptics among the teachers of the deaf in this country, though they make little headway against the "pure oralists" in authority. Then I read in 1951 an article by Wedenberg, who is a Swedish educationist, not an otologist, and he had come to the striking conclusion that it was important, in educating deaf children, to start auditory training before starting lip-reading; in fact, he thought lip-reading was a handicap towards education.

"In all cases described", he wrote, "'lip-reading' has already begun to play an important rôle for the children. It was, therefore, necessary to discourage it because, in the writer's opinion if the child grows too dependent upon speech-reading, he never learns to listen. The initial progress is slow with this procedure in comparison to that in the cases in which the patients, having learned to depend upon speech-reading from the beginning, achieved relatively rapid results. The handicap is gradually overtaken, however, by the 'auditory trained', who are considerably more auditorially focused and, therefore, more normal."

The idea of auditory training for young children is to enable the deaf child to develop hearing and speech in the same way as the normal child would do; that is to say, to listen first and then to imitate the sounds he is able to hear—for a sound is only learnt by constant repetition. In the first twelve months of life an infant gradually comes to understand some speech through continual listening, though does not himself speak yet; but this listening period is indispensable in the process of the child learning to speak. The age of about 12 to 18 months has been called the period of "readiness to speak", and understanding must always precede speaking.

A very severe degree of deafness need not prevent a child from learning, for 95 per cent. of so-called born-deaf children have some residual hearing: sometimes for low tones (i.e. the vowels), sometimes for high tones (i.e. the consonants). A very young child can be taught to use and appreciate a hearing-aid more easily than an older child—I know that Miss Whetnall, the otologist at the Royal National Hospital

audiology centre, has successfully fitted a hearing-aid, of the small modern monopack type, to a child aged ten months.

Dr. George Cathcart's ideas on auditory education or re-education had failed to be generally accepted chiefly, I think, because he wrongly called it a treatment of deafness and because he devoted the method in the main to adults—I say, " in the main ", because on looking up the second edition of Hunter Tod's *Diseases of the Ear*, which Dr. Cathcart edited and indeed completely rewrote in 1925, I read that by the Zund-Burguet method of auditory re-education he " enabled three boys and one girl to be educated at ordinary schools; the various parents had been advised by several aurists to send them to a school for deaf-mutes." I may say that two of those boys, now middle-aged men, I number among my friends, for I got to know them well, long ago: one is head of an important business in London and the other is a solicitor in active practice in the provinces.

Why, then, did I not continue with the method advocated so strongly by George Cathcart? One reason was that George Cathcart himself continued to employ it regularly with deaf patients right up to the time of his death, at an advanced age, in 1951. Another reason was that it is a tedious and time-consuming method: deaf patients used to come for thirty daily treatments, twice a year if possible—even George Cathcart, for all his enthusiasm, used to hand over most of his patients to an assistant whom he trained. I read a paper on the subject at the B.M.A. Annual Meeting in 1930, but the whole idea was severely criticized by other otologists, I was strongly advised by friends among them not to be too closely associated with the method—which, coming from a non-medical source, was thought to have an element of quackery about it—and I, being a good deal younger then, thought it wiser not to send in the paper for publication.

In quite recent years, with the development of hearing-aids and their widespread use, there has been an increased interest in auditory training, but the emphasis has switched from the adult to the very young. Deaf children have been systematically taught lip-reading for very many years—it began with a Spanish Benedictine monk in the sixteenth century, and the first schools for deaf children were established in France, Germany and Scotland in the eighteenth century—and the age at which it is begun has gradually become earlier, intil the Education Act of 1944 has made pre-school education of deaf children permissive from the age of two.

An important milestone was the realization that a born-deaf child, like a normal child, should get his earliest education from his mother, as early as the second six months of life, when the normal child is beginning to babble and to educate himself from the sounds he hears around him. The importance of training the parents of a deaf child to educate the child was first realized, not by some eminent otologist or educator of the deaf, but a mother, Louise Treadwell Tracey. She is not only the wife of one of the greatest actors among film stars, Spencer Tracey, but also the mother of a son, now in his twenties, who was born deaf. From her own personal problem she evolved the important principle that not only must the education of a deaf child begin at the earliest possible moment, but that the parents of the born-deaf child must be educated as well as the child himself.

Along with two other mothers of deaf children, in 1942 Mrs Tracey started a clinic in a small house at Los Angeles—it was not a regular school, for the children were of pre-school age. She soon found, however, that the training given at her clinic was often defeated when the child returned home, and this led her to experimenting with the education of children and parents simultaneously. The clinic was not a centre where parents learned to become teachers or to take their place, but was intended to

encourage and aid them and to assist with home training and supplementary work. Success proved immediate, and even more widely successful has been the fascinating correspondence course for parents which Mrs. Tracey planned, and which has now been used by some 4,500 parents of deaf children all over the world.

The parents of deaf children get out of auditory training largely what they bring to it, and it takes a great deal of patience and time and devotion. When the fact of deafness is first discovered there is usually a tendency on the part of the parents to stop talking to the child. That is wrong. The whole family should go on talking to him just as if he could hear, but they must not expect any answer or even any indication that he understands. In time—and it will seem a long time—the child will actually begin to understand much of what is being said to him, even though he does not hear it, and gradually he will begin to respond. There is no use being in a hurry for the deaf child to learn, it takes time to explain things to him. Repetition, repetition, and again repetition is the only secret of teaching language to a deaf child.

CONCLUSION

What, then, of the future? It has been suggested in some quarters that the specialty of oto-laryngology is on the decline: that the audiologist with his hearing-aids is usurping the functions of the otologist, the allergist is taking over the nose and nasal sinuses, the neuro-surgeon should do the surgery of brain abscess, the radiotherapist is making the surgery of the larynx obsolete, bronchoscopy has slipped from the hands of the laryngologist to those of the thoracic surgeon and oesophagoscopy to the hands of the gastro-enterologist, and most of all, that penicillin and the newer antibiotics have taken the bread out of honest ear, nose and throat surgeons' mouths. In spite, however, of the baleful influence of the dead hand of officialdom on medicine in this country, I am optimistic about the future of oto-laryngology. Only a few days ago I saw the large Barnes Hall of the Royal Society of Medicine in London crowded to the doors by eager-looking young men and women, for the meetings of the Sections of Otology and of Laryngology. And I contrast this with my memory of the first meeting at which I spoke in the Section of Otology in June, 1925—it was on the subject, curiously enough, of hearing-aids, with Dr. Kerr Love of Glasgow in the chair—when some thirty otologists were present in the more than adequate smaller hall.

The otologist used habitually to be a pessimist. I remember my old teacher, Dr. Logan Turner of Edinburgh, saying to me: "Wait until you are my age, and you'll be a pesssimist too." Well, now I am his age and oto-laryngology is more alive today than ever. It is more alive than ever because it is more hopeful than ever, and its practitioners look forward optimistically to the solution of more and more of its fascinating and stimulating problems.

REFERENCES

Andrews, A. (1953). In *The Education of Deaf Children*, pp. 2–5, London.
Ashcroft, D. W., and Hallpike, C. S. (1934). *Journ. Laryng. and Otol.*, **49**, 450.
Cathcart, G. C. (1925). *Lancet*, **1**, 968.
Cathcart, G. C. (1926). *Hunter Tod's Diseases of the Ear*, 2nd edition, p. 310, London.
Colledge, L. (1945). *Journ. Laryng. and Otol.*, **60**, 419.
Fleming, A. (1929). *British Journ. Exper. Path.*, **10**, 226.
Florey, H. W., Chain, E., *et al.* (1940). *Lancet*, **2**, 226.
Fry, D. B., and Whetnall, E. (1954). *Lancet*, **1**, 583.
Itard, J. M. G. (1821). *Traité des maladies de l'oreille et de l'audition*, Paris.
Lederman, M. (1954). *Journ. Laryng. and Otol.* **68**, 333.
Magnus, R. (1926). *Lancet*, **2**, 551, 585.
Ormerod, F. C. (1954). Semon Lecture, *Journ. Laryng. and Otol.*, **58**, 1.

Ormerod, F. C. (1954). In Ellis's *Modern Trends in Diseases of the Ear, Nose and Throat*, p. 316, London.
Spencer, W. G. (1939). *Medical Press*, **201**, 100.
Stevenson, R. Scott (1935). *Recent Advances in Laryngology and Otology*, London.
Stevenson, R. Scott (1946). *Morell Mackenzie*, p. 175. London.
Stevenson, R. Scott (1949). *Recent Advances in Oto-laryngology*, 2nd edition, London.
Stevenson, R. Scott (1953). *Teacher of the Deaf*, **51**, 34.
Stevenson, R. Scott, and Heaf, F. R. G. (1940). *Brit Med. J.* **1**, 164.
Urbantschitsch, V. (1895). *Über Horübungen bei Taubstummheit*, Vienna.
Watson-Williams, P. (1894). *Diseases of the Upper Respiratory Tract*, Bristol.
Watson-Williams, P. (1930). *Chronic Nasal Sinusitis and its relation to General Medicine* (2nd edition, 1933), Bristol.
Yates, A. Lowndes (1924). *Journ. Laryng. and Otol.*, **39**, 554.

MATERNAL DEATH DUE TO RHEUMATIC HEART DISEASE

A Clinical Pathological Conference of the University of Bristol Medical School

CHAIRMAN: PROFESSOR T. F. HEWER

Mr. A. Fyfe: The story begins in 1947, when this lady was 20 years old and found to have pulmonary tuberculosis; there was no history of rheumatic fever. In 1949 she spent 10 months in a sanatorium. In April 1952 she was admitted to Southmead Hospital three months pregnant; on account of the activity of the tuberculosis her pregnancy was terminated. At this time it was noted that she had signs of mitral stenosis and aortic incompetence. Her condition improved and when she became pregnant again, in February 1954, she was seen by Dr. Roberts who considered her chest lesion was quite satisfactory. Her confinement was due on 13th November 1954. In July she was sent to see Professor Perry on account of dyspnoea. He found she had chronic rheumatic heart disease with fully developed mitral stenosis and considerable fibrosis in the left lung following tuberculosis. Her pregnancy progressed satisfactorily and she was seen by an obstetrician who arranged that she should be admitted to hospital on the 5th November in preparation for delivery. She was admitted in labour on the 5th November. She was not dyspnoeic, and her pulse rate was 110. During the course of that night it went up to 120 but it settled down to 96 by the morning. After 22 hours in the first stage she was fully dilated and had a forceps delivery under local anaesthesia. The second stage lasted half an hour: it was quite a straightforward forceps delivery and it was not until afterwards that she showed any signs of marked dyspnoea or cyanosis. Dr. Wright, who was present at the delivery, can continue the story of her subsequent cardiac condition.

Professor Lennon: Was she admitted at the 28th week for rest and assessment?

Mr. Fyfe: No; she was seen up to 22 weeks. There is a note to the effect that she was to see Professor Perry but no record that she actually did so.

Professor C. B. Perry: We saw her in July of last year and we understood that the chest physicians were happy for the pregnancy to continue; she was then 4½ months pregnant and a little dyspnoeic on hills. We thought she would be all right. She was seen again on the 21st October when she said she was fit; her breathlessness was less and the physical signs were unchanged: we asked her to see us after the baby was born.

Question: What analgesia was used?

Mr. Fyfe: Trilene.

Professor Perry: When she came in, in labour, there was no evidence of congestive failure: is that right? (Mr. Fyfe said it was.)

Dr. Wright: I first saw this lady some time after she had been in labour, when the os was about three-quarters dilated. We questioned her about the reason why she did not come in two weeks before delivery and she said she had been better and rather less breathless. She said she could manage to get plenty of rest at home. During labour she was not unduly distressed; her breathing was fairly good. She had the clinical signs of mitral stenosis and aortic incompetence. In the chest there was less movement on the left than the right; there were no adventitous sounds at the bases. Labour was progressing quite well and we said it would be better to have a forceps delivery in view of the cardiac and pulmonary lesions. She seemed quite comfortable in the second stage but as she was being delivered her colour changed; she became cyanosed, with coughing and pulmonary oedema. After a while her colour improved

and she was able to talk to her husband and saw the baby. For the next two or three hours her breathing was easier and her colour better and things seemed to be going all right. About 3½ hours later her temperature went up to 104°, the pulse became rapid and irregular, and she developed a slight cough. In the early morning she had another attack of pulmonary oedema. About 4 a.m. her condition deteriorated; the blood pressure fell and she died at 12.10 p.m. on the 6th November.

Professor Perry: What was the treatment?

Dr. Wright: She was given 20 c.c. of cardophyllin intravenously immediately the pulmonary oedema developed; she had some morphia gr. 1/6 and intravenous digoxin 0·5 mg. in normal saline. She responded for a while and was given oxygen by mask and then by nasal catheter afterwards. She was given two further doses of 1/6 grain of morphia during the night, and, in view of the possible lung infection, some penicillin which was later changed to aureomycin.

Dr. J. M. Naish: I saw this patient in the morning about 9.30 a.m. and there were questions which I could not answer: why had she had the high temperature? Why had she such a degree of peripheral circulatory failure? Her lungs were then temporarily free of oedema and I questioned whether she might have had a pulmonary infarct complicating the pregnancy and rheumatic heart disease. I wondered whether there was perhaps some infective complication causing the rapid pulse or whether she had paroxysmal tachycardia. I suggested some measures to get the systolic blood pressure up—it had dropped to 60 mm. Hg. A noradrenaline drip was set up but she died before it could have any effect on her condition. She is a mystery to me because of the high temperature, the peripheral circulatory failure coming a long time after delivery and the tremendous tachycardia. We have looked up records of cardiac failure during and after delivery and there has been one death in the last few years of a patient with rheumatic heart disease who died of pulmonary oedema after delivery in much the same way, but she did not have adequate antenatal care. We have had two other cases of rheumatic heart disease, with severe pulmonary oedema after delivery, who recovered. We do see cases of acute pulmonary oedema and heart failure during delivery but not very often with rheumatic heart disease and in this case I do not know why she had a high temperature. When I saw her she was collapsed and shocked and I noted that she had some dullness in the left apex which was presumably due to old fibrosis but we wondered whether she had an infarct as well. Her blood pressure fell approximately 12 hours after delivery.

Professor Perry: It did not go up in between?

Dr. Naish: The blood pressure responded during the night reaching 120/80 and then she went into peripheral circulatory failure again.

Professor Hewer asked Dr. Brown to present the post-mortem findings.

Dr. N. J. Brown: There was slight oedema of the ankles, otherwise no external abnormality. There was a slight excess of fluid in all the serous cavities. The heart was enlarged and increased in weight. The mitral valve (Plate IV) showed considerable thickening and stenosis with fusion of the cusps and shortening and thickening of the chordae tendineae. The left ventricle was hypertrophied and dilated. The aortic valve was also thickened with fusion of the cusps and incompetence. There were similar but less severe rheumatic changes in the tricuspid valve. Histologically there was no evidence of any active rheumatism.

The right lung showed intense pulmonary oedema. The left lung weighed a quarter of the right and showed not so much oedema but it was contracted by old tuberculous scarring in the upper lobe. Histologically no tuberculous lesions were seen but bronchopneumonia was commencing in both lungs.

Mitral valve showing scarring and fusion of the cusps and shortening and thickening of the chordae tendineae. There is also left ventricular hypertrophy.

Aortic valve showing thickening and fusion of the cusps due to old rheumatic heart disease.

There
was in th
This v
and com
Questi
Dr. Bi
Questi
oedema
Profes
at Bram
able to a
failure b
venous s
venous s
had one
perhaps
Profes
28 weeks
failure is
Questi
Dr. N
tried to
Profes
much m
undesira
used in l
Questi
pulmona
therefor
Profes
the tube
each of
We a
do not y
mediate
the bloo
pregnan
severe p
way with
gave rise

There was no evidence of chronic venous congestion in any organ. The uterus was in the normal puerperal state.

This was a case of severe chronic rheumatic heart disease, with pulmonary oedema, and commencing bronchopneumonia, but with no evidence of congestive heart failure.

Question: Can you say how old the bronchopneumonia was?

Dr. Brown: Probably 24 hours.

Question: Do you think this patient had such a very severe degree of pulmonary oedema because she only had one lung for expansion?

Professor Perry: I do not know; this case is very worrying. I have been looking at Bramwell's book again; out of 300-odd cases, 15 deaths were, he thought, attributable to a heart lesion and I cannot find a case like this at all: his cases had congestive failure before confinement. I suppose that during pregnancy there is a large arteriovenous shunt through the placenta and we know that the sudden closure of an arteriovenous shunt in a normal person may cause acute failure. Whether the fact that she only had one functioning lung made any difference I do not know. I should have thought perhaps venesection might have been of value.

Professor G. G. Lennon: I should like to stress the importance of seeing a patient at 28 weeks, even if she is very fit and obviously doing well. The two times when heart failure is most likely to occur are at the 28th week and at the 40th week.

Question: How long did she have peripheral circulatory failure?

Dr. Naish: She lived for three hours after the blood pressure began to drop. I tried to push up the peripheral blood pressure.

Professor Lennon: Regarding the use of trilene: this is a point which is going to be much more important in the future. When it is given for some time there may be undesirable complications. Some patients are sensitive to it. I wonder if it should be used in heart cases.

Question: I should like to ask about the diagnosis at the age of 20 of mitral stenosis and pulmonary tuberculosis. This combination is usually said to be very rare: must we therefore assume that she had pulmonary tuberculosis before the mitral stenosis?

Professor Perry: I think you can assume that she had the mitral stenosis long before the tuberculosis. The co-existence of the two is relatively rare considering how common each of the diseases is but it does occur.

We are still left in doubt as to the cause of the patient's death, partly because we do not yet know enough about the rapid circulatory adjustments that take place immediately after delivery. As Professor Lennon pointed out, there is some evidence that the blood volume and cardiac output reaches the two maxima at the 28th week of pregnancy and at or after confinement. However, this patient seems to have suffered severe peripheral circulatory failure and we can only presume that associated in some way with the pulmonary oedema she developed an acute pulmonary infection which gave rise to the fever and the circulatory collapse.

Correspondence

DEAR SIR,

Statutory or Voluntary

The observations of the Chancellor of the Exchequer given in the recent budget speech indicate once again that ways and means have got to be found to produce a real economy in public current expenditure. Enormous programmes of building have been sapping our national finances. The serious and backward structural conditions of very many of the hospitals taken over under the National Health Act in 1948, and especially the hospitals for the mentally ill, will and must continue to absorb a large percentage of the Minister of Health's available money for this the "only sacrosanct item" noted in the proposed permissible building programmes.

It is alarming to see it stated that the recent expansion of local authorities' expenditure "has been the worst feature of public finance this year". No doubt included in this is a certain amount of expenditure incurred in the administration of the ever-increasing statutory services which swell the demand for more and more official facilities and staff for their implementation. It would be out of place here to name and to discuss each of these, but there would appear to be in all this some scope for a careful reconsideration of why and how, in certain respects, some first-class and well-established voluntary services which have proved their great worth over the years, and especially so in the last ten years, are allowed to thin out or even to go into desuetude because "the need is now to be met by an administratively costly statutory system".

Fortunately, the peculiar tenacity of the voluntary spirit is not easily submerged. There are a great number of people in this country who, even now, are willing and able to give assistance on a voluntary basis. The real problem often lies in the provision for even minimal facilities and personnel for administrative and secretarial purposes in such voluntary organizations. Happily in some places, including Bristol, some highly valued assistance of this sort is forthcoming, but the method could be extended much more widely as a basis of setting voluntary services on a more steady and stable background. This is specially so in the voluntary assistance concerned with the many and varied social services, whose action in many ways could engender a strong liaison, say, with the statutory medical services. Through such channels, ways can be developed for educating the public in the availabilities and proper use of the Health Services. Liaison as between family doctors, the social services, and preventive medicine services, can quite appropriately be built up. The voluntary services can often act in a special way and to function as catalysers of activity on their own and as between groups of others. Child Health Services have and should, in fact, benefit greatly by these voluntary activities.

These fields of voluntary work might well, with greater general appreciation of their real worth and with their wider development, take again their full and proper place in our national organization, and be by no means a small factor in bringing back some of our former financial stability. Statutory organizations, whether for preventive or curative medical work, or for social and some educational purposes, have here and there tended to engulf the fire of the voluntary effort.

It is of special interest to note the remarks made by Dr. Charles White in his recent presidential address to the Society of Medical Officers of Health:

> "In discussing the advances that the M.O.H. might make into new territory with the aid of allies, Dr. White numbered among those allies the voluntary societies. In one respect these had a great advantage over official bodies: they could take action in individual cases, so far as their funds permit, without committing themselves to similar action in all the similar cases that might present themselves; and this made it easier for them to do pioneer work on a small scale. Many people were still anxious to give personal service to those in misfortune or distress, but on the other hand it was nowadays far harder to collect money for charitable purposes. 'While obviously no voluntary organization can be given a free hand to spend public money, I suggest that it would be well worth while widening the range of activities in which voluntary societies may be subsidized by local authorities'."

It seems, therefore, that a real search into the fields of voluntary effort, and in increasingly sympathetic and understanding approach to the minimal but basic financial needs to keep the work moving, without the recurrently alarming and sometimes despondent situation of worrying about how the office clerk or the administrative secretary's salary can be met, might be now very well worth while. Economy by and with the full use of voluntary services should be a rising force. The Treasury and the Local Authorities should now regard all this as a very important matter. They should seek the avenues whereby, either by full co-operation with or by more delegation of responsibility to voluntary societies, money can be saved.

Yours faithfully,

A. V. NEALE.

Annotation

BRISTOL REGISTER OF CONGENITAL HEART DISEASE

It is only comparatively recently that the exact diagnosis of congenital heart disease has become more than an academic exercise and a guide to prognosis.

Since Gross tied the first patent ductus in 1939 the achievements of surgery have been spectacular and it has become possible to treat many of these conditions. The advent of the heart-lung machine will further extend the scope of surgery. In some cases a complete cure is possible or feasible. The ligature of a patent ductus, the closure of a defect in the auricular or ventricular septa or the division of a stenotic pulmonary valve leave an essentially normal heart. In others the defect is too gross to be corrected surgically but some readjustment of the circulation can be made that produces some improvement, tricuspid atresia, Fallot's tetralogy and perhaps transposition of the great vessels come into this category. In another group of gross anomalies, truncus arteriosus, neither surgical correction or palliation seem possible.

If surgery is to be contemplated in these conditions an exact diagnosis must be made, and in many cases this cannot be done without the aid of the special techniques of cardiac catheterization and angiocardiography.

Not only must an exact diagnosis be made, but an exact appreciation of the natural course of the disease is necessary in order to know whether the risks of surgery outweigh the risks of doing nothing. For example, it is now possible to close ventricular septal defects using a heart-lung machine, but many, perhaps the majority, of these patients live a normal span without disability. But some patients run into trouble and need treatment, and it is often difficult to decide exactly when surgical treatment should be advised. Again, some operations will result not in a normal heart, but in a new lease of life which may be long or short, how long or how short remains to be seen.

It is obviously necessary to keep careful records of all cases of congenital heart disease whether treated or untreated in order to know what we should do, when we should do it and what we should leave undone.

For these reasons it has been decided to keep a register of all cases of congenital heart disease seen at the United Bristol Hospitals. Over the course of years a valuable fund of knowledge will be accumulated.

Cushing, a great keeper of statistics, once said to an Englishman who had come to work with him: " There wouldn't be much point in playing cricket if you didn't keep the score ". We intend not only to keep the score, but the batting and bowling averages as well.

News from Societies

CORNWALL CLINICAL SOCIETY

1955

Friday, 4th November: Clinical Evening. Camborne-Redruth Hospital.

Thursday, 24th November: Dinner and Dance. Hotel Bristol, Newquay

Thursday, 1st December: Clinical Evening. R.C.I.

1956

Friday, 6th January: Clinical Ebening. Camborne-Redruth Hospital.

Thursday, 2nd February: Films: "*Valvotomy*", "*The Conjoined Twins of Kano*". R.C.I.

Friday, 2nd March; Dr. F. E. Camps, "*Death at Rillington Place*". R.C.I.

Friday, 6th April: Clinical Evening. Camborne-Redruth Hospital.

Thursday, 3rd May; Clinical Evening. R.C.I.

Friday, 1st June: Clinical Evening. Chest Hospital, Tehidy.

Friday, 6th July: Cases and Demonstrations by Consultant Staff. Camborne-Redruth Hospital.

Friday, 5th Octobet: Presidential Address and A.G.M. Camborne-Redruth Hospital.

1. Refreshments will be served from 8.0 to 8.30 p.m.
2. The meeting will start at 8.30 p.m. and finish not later than 10.30 p.m.
3. Detailed notices of individual meetings will be circulated in advance.
4. The Secretaries will be pleased to receive suggestions or clinical contributions at any time.

J. D. Hardy,
T. S. Wilson,
Hon. Secs.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY

At a meeting on 29th September, 1955, Mr. H. Dendy Moore, F.R.C.S., spoke of the uses of diodone, an organic iodide known to be safe, in diagnosis and treatment. Venography with this medium can be used to show normal venous anatomy, deep varices, old thromboses and recanalizations, permanent blocks in veins, acute thromboses and particularly the state of the valves. At present, though useful for teaching and research, it is of little practical value in surgery. By percutaneous puncture of an artery and the injection of diodone, arterial blocks and aneurysms can be shown. Even the aorta may be punctured directly and safely through the back. Multiple X-ray exposures though useful are not essential. Intravascular injections of diodone enable abdominal organs to be visualized. Splenography, an easy and safe procedure, can demonstrate the results in portal hypertension of various origins and also hepatic lesions. Following aortagrams the kidneys can be visualized and by multiple X-ray exposures the passage of diodone through, and its excretion by, the kidney can be seen. Diodone can also be used to show congenital abnormalities of the kidney, the various stages of hydronephrosis, hypernephromata and pyelonephritis. The stomach can be outlined if a small amount of viscous diodone is swallowed and the site of a perforated gastric or duodenal ulcer demonstrated. Diodone is also of value in cases of ruptured bladder, of empyaema and of sinus infection.

WESSEX RAHERE CLUB

The Spring Dinner of the club will take place at the Royal Clarence Hotel, Exeter, on Saturday, 28th April, 1956.

It is hoped that Mr. Derrick Colthart will be present as Guest of Honour.

Membership of the club is open to all Bart's men practising in the West Country. Further details will be circulated to members and to any other Bart's men who are interested and who will get in touch with the Hon. Secretary, Mr. A. Daunt Bateman, of 11 The Circus, Bath.

Notes and News

Dr. Ronald Woolmer, Reader in Anaesthetics, has been appointed Director of the Research Department in Anaesthetics of the Royal College of Surgeons of England. He was Chief Instructor at the European Centre (W.H.O.) for Anaesthesia at Copenhagen in 1951–52. For the past two years he has been Vice-Dean of the Faculty of Anaesthetists of the Royal College of Surgeons.

Dr. R. C. Wofinden has been appointed Medical Officer of Health for the City and County of Bristol in succession to Dr. R. H. Parry. He has been Deputy Medical Officer of Health since 1947. Dr. Wofinden qualified in 1937. After house posts at St. Mary's and at Rotherham he became successively Deputy Medical Officer of Health of Rotherham and of Bradford. In 1946 he won the Joseph Rogers Essay Prize, his essay being published in 1947 with the title, "Health Services in England". Among his other publications is "Problem Families in Bristol" published in 1950.

Last year Professor Bruce Perry, at the invitation of the Rockefeller Foundation, spent three months in the United States to study methods of medical education.

Professor G. G. Lennon has been visiting professor at the University of Baghdad from January to April, 1956. On his way home he will be visiting Istanbul and Ankara to give lectures under the auspices of the British Council.

UNIVERSITY OF BRISTOL

PRIZES

Crosby Leonard Prize: G. W. Manley.
Francis Dudley Memorial Prize: G. F. Lipscomb.
Dental Gold Medal: K. V. Mortimer.
Mackie Pathology Prize: W. E. Benney.

M.D. (Bristol): Suzanne K. R. Clarke.

M.B., CH.B. (BRISTOL) (DECEMBER, 1955)

A. B. Claudius-Cole.
M. R. Clift.
Miss I. R. Coulton.
A. Ganendran.
J. A. Hayes.
W. G. R. Hobbs.
D. I. D. Hodge.
I. M. Joiner.
F. J. M. Killick.
Miss S. A. F. Maxted.
Mrs. M. E. C. Parke.
R. P. Saundby.
D. W. Seldon.
J. A. C. Strachan.
M. T. White.
J. H. Williams.

Appointments

UNITED BRISTOL HOSPITALS

Name	*Appointment*	*Formerly*
MONTGOMERY, H., M.B., B.S. (LOND.).	Registrar in Pathology.	Resident Clinical Pathologist, St. Mary's Hospital, London.
MORGAN, E. J. R., B.D.S. (BRISTOL), M.B., CH.B. (BRISTOL).	Registrar in Dental Surgery.	Senior House Officer in Anaesthetics, United Bristol Hospitals.

SOUTH-WESTERN REGIONAL HOSPITAL BOARD

BRISTOL

Name	*Appointment*	*Formerly*
WRIGHT, D. W., M.B., CH.B. (BRISTOL).	Medical Registrar, Southmead Hospital.	S.H.O. in Medicine, Southmead Hospital.
TOVEY, J. E., M.B., CH.B. (BRISTOL).	Registrar in Pathology, Southmead Hospital.	S.H.O. in Clinical Pathology, Southmead Hospital.
MARTLEW, R. H., M.B., CH.B. (LIVERPOOL), D.P.M. (CONJOINT), M.D. (LIVERPOOL).	Consultant Psychiatrist, Bristol Mental Hospital, Fishponds, Bristol.	Senior Registrar, Rainhill Hospital, Liverpool.
WARNER, J., M.B., CH.B. (B'HAM).	Registrar in Psychiatry, Bristol Mental Hospitals.	S.H.O., Bristol Mental Hospitals.

BATH

Name	*Appointment*	*Formerly*
SELIM, M., M.B., B.CH. (CAIRO), D.L.O. (CAIRO).	E.N.T. Registrar, Bath Group of Hospitals.	S.H.O. in E.N.T. Surgery, Barnet General Hospital.
CIANTAR, JOAN, M.B., B.CH. (WALES).	Registrar in Pathology, Bath Group of Hospitals.	Registrar in Pathology, Southend-on-Sea Group of Hospitals.

SOUTH SOMERSET

Name	*Appointment*	*Formerly*
RUSSELL, HELEN M., M.R.C.S., L.R.C.P., M.A. (CANTAB), M.B., B.CHIR. (CANTAB.), D.OBST.R.C.O.G., M.R.C.O.G.	Clinical Assistant in Obstetrics and Gynaecology, South Somerset Clinical Area (8 sessions).	Senior Registrar in Obstetrics and Gynaecology, South Somerset Clinical Area.

DEVON AND CORNWALL

Name	*Appointment*	*Formerly*
BUTLER, N. G. P., M.B., B.S., M.R.C.S., L.R.C.P., D.A., F.F.A.R.C.S.	Consultant Anaesthetist, Exeter Clinical Area.	Senior Anaesthetic Registrar, Portsmouth Group of Hospitals.
WEYHAUSEN, E. G., L.A.H. (DUBLIN), M.B., B.CH. (DUBLIN).	E.N.T. Registrar, South Devon and East Cornwall Hospital, Plymouth.	S.H.O. in E.N.T. Surgery, Clayponds Hospital, South Ealing.
REINOLD, D. G., M.R.C.S., L.R.C.P., PRIMARY F.R.C.S.	Surgical Registrar, Royal Cornwall Infirmary, Truro.	Locum Surgical Registrar at Royal Cornwall Infirmary.
WALKER, D. G., M.B., B.S. (SYDNEY), PRIMARY F.R.C.S.	Surgical Registrar, South Devon and East Cornwall Hospital, Plymouth.	Undertaking Final Fellowship.

Name	*Appointment*	*Formerly*
GUNATILLEKE, D. E., M.B., B.S. (CEYLON), F.R.C.S. (ENG.).	Registrar in Obstetrics and Gynaecology, Royal Devon and Exeter Hospital, Exeter.	Postgraduate work.
MUDREWICZ, J., M.B., CH.B. (EDIN.).	Registrar in Obstetrics and Gynaecology, Camborne–Redruth Miners' and General Hospital.	S.H.O. in Obstetrics, St. Mary's Maternity Hospital, West Croydon.
MANTLE, J. A., M.B., CH.B. (B'HAM), M.R.C.S., L.R.C.P., F.R.C.S. (ENG.) AND (EDIN.).	Consultant Orthopaedic Surgeon, West Cornwall Clinical Area.	Senior Registrar, Royal Orthopaedic Hospital, Birmingham.
PIGGOT, J., M.B., B.CH., B.A.O., F.R.C.S. (EDIN.).	Orthopaedic Registrar, Princess Elizabeth Orthopaedic Hospital, Exeter.	Registrar in General Surgery, Banbridge Hospital, Co. Down.
NERI, L. E., M.B., B.S. (MADRAS), F.R.C.S. (ENG.).	Senior Surgical Registrar to the Thoracic Unit at Hawkmoor Chest Hospital, Bovey Tracey.	Registrar in General Surgery, Whipps Cross Hospital.